

<b>Title:</b> Accessible Information Requirement Final IA on Secondary Legislation  <b>IA No:</b> DFT00452 <b>RPC Reference No:</b> N/A <b>Lead department or agency:</b> Department for Transport  <b>Other departments or agencies:</b> N/A	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 18/10/2022			
	<b>Stage:</b> Final			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Secondary Legislation			
	<b>Contact for enquiries:</b> buses@dft.gov.uk			

<b>Summary: Intervention and Options</b>	<b>RPC Opinion:</b> Not Applicable
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**Cost of Preferred (or more likely) Option (2019 prices, 2023 present value)**

Total Net Present Social Value	Business Net Present Value	Net cost to business per year	Business Impact Target Status
£901.2m	-£23.5m	£3.6m	Non-qualifying provision

**What is the problem under consideration? Why is government intervention necessary?**

Onboard audible and visible (AV) information can help disabled people, as well as other passengers, to feel confident when taking a local bus or local coach service. Despite this, provision of such services in the de-regulated local service market outside of London is low. There are positive benefits to society from the provision of such services, mainly in the form of social inclusion. AV information on local services can improve disabled people’s confidence to travel and make it increasingly possible for those who rely on them to have independence and equal access to opportunities. However, it may not be in the commercial interest of all private operators, or private operators may not be aware of the social benefits of providing AV information. Government intervention is necessary to address these positive externalities and equity issues.

**What are the policy objectives and the intended effects?**

The overall aim is to ensure that disabled people have the onboard information they need to travel on local services with confidence. Specifically, we wish to ensure that people with a range of impairments, and those who are not disabled, can travel in safety and with confidence, whilst giving operators the flexibility to choose solutions which will work for them. The intervention is expected to slightly increase patronage by improving the ease of travelling by local services for all people. It will specifically increase the accessibility of local services for disabled people and thereby improve their access to employment and services, and their general independence.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

0. Do nothing: Operators continue to have discretion over all aspects of information provision.  
 1. Industry led code of practice with Government accreditation to incentivise adherence.  
 2. Accessible Information Requirement affecting local services, with two tiered delayed requirement depending on the age of vehicle.  
 3. Accessible Information Requirement affecting local services, with three tiered delayed requirement depending on the age of vehicle. (Preferred Option)

**Will the policy be reviewed?** It will be reviewed. **If applicable, set review date: by 28/04/2027**

Does implementation go beyond minimum EU requirements?	No			
Is this measure likely to impact on international trade and investment?	No			
Are any of these organisations in scope?	<b>Micro</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	<b>Traded:</b> 0.00		<b>Non-traded:</b> 0.00	

*I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.*

Signed by the responsible Minister:  ..... Date: 27.02.2023

## Summary: Analysis & Evidence

## Policy Option 1

Description: Industry led code of practice with Government accreditation to incentivise adherence.

### FULL ECONOMIC ASSESSMENT

Price Base Year 2019	PV Base Year 2023	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -0.05	High: -0.01	Best Estimate: -0.02

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (2023 Present Value)
Low	0.01	10	0.00	0.01
High	0.06		0.00	0.05
Best Estimate	0.03		0.00	0.02

#### Description and scale of key monetised costs by 'main affected groups'

- Costs to operators:** There will be costs to operators to familiarise themselves with the code of practice and accreditation scheme (will be at most equivalent to familiarisation costs of regulation, estimated to be £0.01m-£0.05m).

#### Other key non-monetised costs by 'main affected groups'

- To traffic commissioners:** Enforcement and administrative costs of inspection and accreditation, these have not been monetised due to a lack of data.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (2023 Present Value)
Low	0.00	10	0.00	0.00
High	0.00		0.00	0.00
Best Estimate	0.00		0.00	0.00

#### Description and scale of key monetised benefits by 'main affected groups'.

- No monetised benefits due to uncertainty around operator behaviour.

#### Other key non-monetised benefits by 'main affected groups'

- There will be some benefits to users in terms of increased coverage of accessible information on local services by operators who decide to follow the code of practice, though compliance is likely to be low as a code of practice does not change the commercial viability of installing the equipment.

#### Key assumptions/sensitivities/risks

Discount rate

3.5

The success of this option in improving accessible information across the local service market in England, Scotland, and Wales will depend upon operator behaviour and whether it is deemed commercially viable, due to the scheme being voluntary. Any costs incurred by operators beyond initial familiarisation costs will therefore be optional.

### BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m (2020 base year):
Costs: 0.00	Benefits: 0.00	Net: 0.00	
			0.01

## Summary: Analysis & Evidence

## Policy Option 2

Description: Operators are required to provide Audio Visual announcements, with a two tiered deadline depending on age of vehicle.

### FULL ECONOMIC ASSESSMENT

Price Base Year 2019	PV Base Year 2023	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 99.0	High: 2925.1	Best Estimate: 933.6

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (2023 Present Value)
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Low	10.9	10	1.1	20.1
High	82.8		6.4	132.0
Best Estimate	25.2		3.2	53.6

#### Description and scale of key monetised costs by 'main affected groups'

- **Costs to operators:** There will be costs to familiarise themselves with the new regulation (estimated £0.01m-£0.06m), costs of purchasing and installing the equipment (estimated £15m-£86m), costs of upskilling drivers to use the technology (estimated £0.1m-£0.3m), and ongoing back office costs to run and maintain the AV systems (estimated £8m-£31m).
- **Cost to government:** There will be a cost of providing the subsidy to small operators to fund the purchase and installation of equipment (grant amount between £3.3m - 4.3m in 2019 prices), and a possible loss of indirect tax revenue due to modal shift (estimated -£2m-£24m)

#### Other key non-monetised costs by 'main affected groups'

- **To traffic commissioners:** There will be costs of enforcing compliance. These are expected to be a slight additional burden on top of compliance checks already undertaken, and have not been monetised due to proportionality and a lack of data.
- **To government:** Success of the policy means there may be a cost to local transport authorities (LTAs) for reimbursement of increased concessionary travel. However, we expect this cost to be slight as the increase in concessionary travel is expected to be a small proportion of overall journeys, and we do not expect operators to run additional services to accommodate this, due to spare capacity. Additionally, concessionary reimbursements are currently being paid at a higher rate than actual concessionary patronage in line with the Concessionary Travel Recovery Strategy, with the level of payments being staircased down until it aligns with concessionary patronage from October 2022. We do not expect concessionary travel as a result of this policy to increase enough to take patronage above the level of reimbursements.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (2023 Present Value)
Low	0.0	25.8	231.0
High	0.0	345.8	2945.2
Best Estimate	0.0	113.1	987.2

#### Description and scale of key monetised benefits by 'main affected groups'

- **Benefits to operators:** There will be an increase in profits as a result of increased patronage (estimated £0.7m-£36.9m)
- **Benefits to users:** There will be benefits to existing local service users of improved journey quality and benefits to new users who will be able to travel (estimated £182m-£2,640m)
- **Benefits to wider society:** There will be positive impacts associated with an increase in local service kms travelled and a decrease in car kms travelled (estimated benefit £48m-£268m)

#### Other key non-monetised benefits by 'main affected groups'

- There may be some benefits to operators who use the AV technology for advertising.
- There will likely be lower AV technology costs in the future due to stimulated growth in market.

#### Key assumptions/sensitivities/risks

3.5

The biggest uncertainty is around the number of vehicles in which operators would install audio-visual equipment (AV) under business as usual. The forecasted growth rate has been varied by +/- 50% and a range of high, low, and best estimate scenarios have been presented to reflect the uncertainty in this key factor. Other assumptions on growth rates of future trends have also been varied between the three scenarios presented to account for uncertainty.

#### BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	Score for Business Impact Target (qualifying provisions only) £m (2020 base year):
Costs: 4.7             Benefits: 0.0             Net: 4.7	21.4

## Summary: Analysis & Evidence

## Policy Option 3 (Preferred Option)

Description: Operators are required to provide Audio Visual announcements, with a three tiered deadline depending on age of vehicle

FULL ECONOMIC ASSESSMENT

Price Base Year 2019	PV Base Year 2023	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 96.8	High: 3068.0	Best Estimate: 999.2

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (2023 Present Value)
Low	8.1	10	1.1	17.5
High	71.4		6.5	122.4
Best Estimate	18.7		3.3	48.0

**Description and scale of key monetised costs by ‘main affected groups’**

- **Costs to operators:** There will be costs to familiarise themselves with the new regulation (estimated £0.01m-£0.06m), costs of purchasing and installing the equipment (estimated £13m-£75m), costs of upskilling drivers to use the technology (estimated £0.1m-£0.3m), and ongoing back office costs to run and maintain the AV systems (estimated £8m-£31m).
- **Cost to government:** There will be a cost of providing the subsidy to small operators to fund the purchase and installation of equipment (grant amount between £3.3m - 4.3m in 2019 prices),, and a possible loss of indirect tax revenue due to modal shift (estimated -£0.2m-£26m).

**Other key non-monetised costs by ‘main affected groups’**

- **To traffic commissioners:** There will be costs of enforcing compliance. These are not expected to be a large additional burden on top of compliance checks already undertaken, and have not been monetised due to proportionality and a lack of data.
- **To government:** Success of the policy means there may be a cost to LTAs for reimbursement of increased concessionary travel. However, we expect this cost to be slight as any increase in concessionary travel is expected to be a small proportion of overall journeys, and we do not expect operators to run additional services to accommodate this, due to spare capacity. Additionally, concessionary reimbursements are currently being paid at a higher rate than actual concessionary patronage in line with the Concessionary Travel Recovery Strategy, with the level of payments being staircased down until it aligns with concessionary patronage from October 2022.. We do not expect concessionary travel as a result of this policy to increase enough to take patronage above the level of reimbursements.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (2023 Present Value)
Low	0.0	10	24.2	219.2
High	0.0		360.0	3085.6
Best Estimate	0.0		119.2	1047.2

**Description and scale of key monetised benefits by ‘main affected groups’**

- **Benefits to operators:** There will be an increase in profits as a result of increased patronage (estimated £0.8m-£38.7m)
- **Benefits to users:** There will be benefits to existing local service users of improved journey quality and benefits to new users who will be able to travel (estimated £199m-£2,766m)
- **Benefits to wider society:** There will be positive impacts associated with an increase in local service kms travelled and a decrease in car kms travelled (estimated £18m-£281m)

**Other key non-monetised benefits by ‘main affected groups’**

- There may be some benefits to operators who use the AV technology for advertising
- There will likely be lower AV technology costs in the future due to stimulated growth in market

<b>Key assumptions/sensitivities/risks</b>	<b>Discount rate</b>	<b>3.5</b>
The biggest uncertainty is around the number of vehicles in which operators would install audio-visual equipment (AV) under business as usual. The forecasted growth rate has been varied by +/- 50% and a range of high, low, and best estimate scenarios have been presented to reflect the uncertainty in this key factor. Other assumptions on growth rates of future trends have also been varied between the three scenarios presented to account for uncertainty.		

**BUSINESS ASSESSMENT (Option 3)**

<b>Direct impact on business (Equivalent Annual) £m:</b>	<b>Score for Business Impact Target (qualifying provisions only) £m (2023 base year):</b>
Costs: 4.0   Benefits: 0.0   Net: 4.0	18.1

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# 1.0 Policy Rationale

## 1.1 Policy background

1. The Public Service Vehicles Accessibility Regulations 2000<sup>1</sup> (PSVAR) prompted a revolution in the accessibility of bus and coach services for disabled people and others with reduced mobility. For the first time, it introduced legal requirements for the provision of a designated wheelchair space and boarding facilities, priority seating, colour-contrasting handholds and a range of other features to help disabled people to travel in safety and comfort. It began a process which, by 2021, saw 100% of buses in Great Britain meeting accessibility standards<sup>2</sup>. Unlike its equivalent in the railway sector, the Rail Vehicle Accessibility Regulations 2010<sup>3</sup>, PSVAR did not include any requirement for the provision of accessible information on-board vehicles – due in part to a lack of development in technological solutions for providing it. The most recent statistics show that, in England outside of London, only 15% of local buses provide audible and visible route/direction, next stop and diversion information.<sup>4</sup>
2. Accessible information can help a range of passengers, not just disabled passengers, to feel more confident when using local services. This includes tourists, people new to an area or route, older people, and disabled people. In some circumstances all passengers can experience temporary visual obstruction even on the most familiar route, for example travelling by bus in the dark, in the rain (steamed windows), and on crowded buses with passengers blocking views. For many disabled people, accessible information is not just a nice-to-have, it can be vital in giving them confidence in their ability to complete journeys safely and independently, free from the fear of alighting at the wrong stop and being left stranded in an unfamiliar location.
3. Guide Dogs has campaigned for many years for PSVAR to be amended to require installation of audible and visible equipment on new vehicles to provide next stop announcements. Their “Talking Buses” campaign<sup>5</sup> has focused particularly on the impact that a lack of accessible information has on the ability of blind and partially sighted people to travel independently.
4. Prior to the Bus Services Act 2017, government resisted calls to require the installation – existing or new – of equipment on-board local services to provide next stop information, on the grounds that doing so would place an unjustified and disproportionate financial burden on operators, and could potentially jeopardise the viability of marginal routes run by operators which are Small or Medium Enterprises (SMEs). Information from the Real Time Information Group (RTIG), a trade body for public transport technology stakeholders, estimated the upfront cost of installing audio and visual (AV) equipment to be around £2,700 - £5,700 per vehicle, depending on the size of vehicle and technology chosen.
5. However, there are now a range of approaches for providing audible and visible information, using different technologies and at a variety of price points. Whilst traditional systems, either fitted by the vehicle manufacturer or retrofitted for the operator, remain the approach of choice for delivering information in a manner which fits with an operator’s brand image, lower cost solutions are also available. These include all-in-one solutions and tablets linked to inexpensive screens and speakers. At its most rudimentary, accessible information needn’t involve complex and expensive technology, but rely instead on driver announcements and simple visual displays.
6. We remain of the view that mandating specific equipment would be burdensome for some operators. Our technology-neutral approach intends to strike an appropriate balance between encouraging patronage, particularly amongst disabled passengers, and ensuring that operators and the technology market have the flexibility to innovate in the development of new, low-cost solutions for providing accessible on-board information. To ensure consistency across services,

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<sup>1</sup> The Public Service Vehicles Accessibility Regulations 2000, <https://www.legislation.gov.uk/ukxi/2000/1970/contents/made>

<sup>2</sup> Percentage of buses with accessibility certificate or low floor access, <https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021>, Table BUS0603

<sup>3</sup> The Rail Vehicle Accessibility Regulations 2010, <https://www.legislation.gov.uk/ukxi/2010/432/contents/made>

<sup>4</sup> DfT bus statistics 2020/21, Table BUS0601b, GB outside of London figures are unpublished.

<sup>5</sup> Guide Dogs’ Talking Buses Campaign, [https://www.guidedogs.org.uk/-/media/project/guidedogs/guidedogsdotorg/files/how-you-can-help/talking-buses-campaign/12522\\_talking-buses-toolkit\\_accessible.pdf](https://www.guidedogs.org.uk/-/media/project/guidedogs/guidedogsdotorg/files/how-you-can-help/talking-buses-campaign/12522_talking-buses-toolkit_accessible.pdf)

we will specify minimum requirements for the provision of audible and visible information, using an outcome based approach. However, we will specify requirements for induction loops as this requires use of specific technology to facilitate a hearing-aid user's access to the audible information.

## 1.2 Problem under consideration

7. A 2014 survey by Guide Dogs found that seven in ten blind and partially sighted people had experienced a bus driver forgetting to inform them when their stop was reached, and 23% of disabled respondents had been left more than a mile from their intended destination having missed their stop. Guide Dogs illustrated the potential benefits to drivers too, particularly those who cannot communicate well in English, are not familiar with the local area and/or reducing cognitive load allowing drivers to concentrate on driving. Furthermore, 97% of respondents said that they would either begin using buses or use bus services more frequently if audible and visible information was provided onboard.<sup>6</sup>
8. More recently, Guide Dogs has been a conduit for the perspectives of a range of representative organisations interested in supporting an expansion in the provision of accessible information. They demonstrated how accessible on-board information has the potential to benefit a much wider group of disabled people, and others with impairments which affect their ability to travel but who might not consider themselves to be disabled. Examples include people with hearing and cognitive impairments, learning disability, or mental illness. With an ageing population, the incidence of both diagnosed and undiagnosed impairments will likely increase and the availability of accessible on-board information could help many people to complete satisfactory journeys and remain independent. In fact, the Bus Passengers Survey<sup>7</sup> (2017) results illustrated that, where announcements and displays are present, passenger satisfaction with information rises sharply with 61% satisfaction rising to 82% when audio announcements are provided on-board the bus, and 60% satisfaction rising to 79% when there are next stop displays on bus. In the latest pre-Covid-19 Bus Passenger Survey (2019), only 68% of passengers on average across operators were satisfied with the level of information provided inside the bus.

## 1.3 Rationale for intervention

9. In 2017, the Department for Transport consulted on an Accessibility Action Plan to contribute to the government's stated aim of halving the disability employment gap – the difference between the employment rates for disabled and non-disabled people which, in 2020, stood at 29%<sup>8</sup>. The subsequent 2018 Inclusive Transport Strategy<sup>9</sup> confirmed the government's ambition for disabled people to have the same access to transport as everyone else. To support this ambition, the Strategy included a commitment to consulting on Accessible Information Regulations to require audible and visible next stop announcements to be provided on local services across England, Scotland, and Wales.
10. The so called "Purple Pound" – the annual spending power of disabled people and their families – was estimated at £212bn in 2020<sup>10</sup>. Yet, all too often disabled people are unable to reach the places where they want to go. Local services connect people with jobs, shops, social and leisure activities. For people in rural and isolated communities, and those who are disabled, they can provide a lifeline by connecting people to their social networks, facilitating economic activity, and promoting health and wellbeing.
11. Local services are often seen as difficult to use for those unfamiliar with a route, new to an area, or simply those not being able to enjoy the view when travelling lest they miss their stop. For many disabled people, the lack of information on many services outside London can prevent

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<sup>6</sup> Guide Dogs (2014) 'Destination Unknown: An investigation into bus passenger experiences'

<sup>7</sup> <https://www.transportfocus.org.uk/publication/bus-passenger-survey/>

<sup>8</sup> ONS 2021 Available at <https://commonslibrary.parliament.uk/research-briefings/cbp-7540/>

<sup>9</sup> Inclusive Transport Strategy 2018,

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/728547/inclusive-transport-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728547/inclusive-transport-strategy.pdf)

<sup>10</sup> A report by DWP, latest available data is 2012/3. <https://www.gov.uk/government/news/high-street-could-be-boosted-by-212-billion-purple-pound-by-attracting-disabled-people-and-their-families>

them from boarding in the first place; they can fear that the driver will forget to notify them as their destination approaches and that they will be left stranded in an unfamiliar and potentially unsafe location. The inconvenience of alighting at the wrong stop may be exacerbated significantly for some disabled passengers, who may not immediately recognise the mistake or be able to rectify it. For those with sensory and cognitive impairments, learning disabilities and mental illness, consistent accessible information can provide much needed reassurance and a structure for journeys, helping them to gain confidence in their ability to travel independently.

12. The technology to provide automated on-board announcements has been available for over a decade, and is now used on virtually all services in London<sup>11</sup>, as well as in a small number of urban areas, including Brighton, Nottingham, and Blackpool<sup>121314</sup>. The introduction of Welsh Quality Standards in Wales has also prompted a gradual increase in the availability of audible and visible information. More rudimentary approaches, relying on drivers to make announcements themselves, have been possible for much longer. Yet, the de-regulated market outside London has not delivered improvements in accessible on-board information in any large-scale way, as provision of such services continues to be viewed as commercially unviable or unnecessary by many operators.
13. When left to the free market, accessible information is inconsistently provided by operators as the wider social benefits to passengers are not fully considered, and the decision to provide it is based solely on commercial viability. Despite the social inclusion benefits associated with the provision of such services, there is a low level of provision in Great Britain outside of London. This means that there continues to be a disadvantage for many of those for whom a lack of information presents a barrier to access, and those who depend on local services as their sole mode of transport. Therefore, the government is intervening to ensure accessible information is provided consistently and the wider social benefits are maximised as a result.
14. Discrepancies between provision of accessible information in London and outside of London means access has become a 'postcode lottery', depending on where you are located in the country. Correcting these geographical disparities by ensuring equal access to information and opportunities will therefore significantly help to achieving the government's objective of Levelling Up.
15. We intend to use the powers at Sections 181a-181d of the Equality Act 2010, as inserted by Section 17 of the Bus Services Act 2017, to make the Accessible Information Regulations. These Regulations would require operators to provide audible and visible onboard information on their local services. This is intended to ensure disabled passengers, and others for whom accessible information supports their travelling experience, have the information they need in order to have confidence to travel safely on local services. As a result, this would enable them to reach employment opportunities, visit the shops, meet friends, and engage with their local and wider communities. This intervention will provide strong support to the Department's overall efforts to improve the accessibility of transport services for disabled people and the growing older population, contributing to efforts to close the disability employment gap and promoting transport options for everyone.
16. To support small operators in complying with the Accessible Information Regulations, we will provide a minimum £3.5m Accessible Information Grant towards the costs of purchasing and installing the equipment necessary to provide information. This Grant will be launched to align with the Regulations, so that any equipment funded is capable of providing information consistent with the new legal requirements. Subject to the finalisation of budgets ahead of the 2022-23 financial year end, there may be scope to increase the grant by £1.1m to a maximum of £4.6m. If confirmed, this funding would be used to support the adaptation of vehicles to provide

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<sup>11</sup> BUS0610: [Percentage of buses used as Public Service Vehicles with Audio Visual information by metropolitan area status and country: Great Britain](#)

<sup>12</sup> Nottingham, 'We've fitted audio announcements to nearly every bus in the fleet, which announces the next stop the bus is approaching', <https://www.nctx.co.uk/blind-and-partially-sighted-customers>

<sup>13</sup> Brighton and Hove 'All buses are 'Talking Buses' with audio and visual next stop announcements', <https://www.buses.co.uk/information-blind-partially-sighted-passengers>

<sup>14</sup> Blackpool, 'The majority of our bus fleet are Palladium branded vehicles, distinguishable by the grey and yellow livery. These low floor vehicles are fully accessible with both audio and visual next stop announcements alongside plenty of space for both wheelchair and pushchair users.' <https://www.blackpooltransport.com/accessibility-information>



visible information displays for passengers positioned in rearward facing wheelchair spaces, in addition to equipment necessary to meet the minimum mandatory requirements. It would also help to maintain project contingency. In advance of a final decision on grant funding, we are progressing the IA on the basis of providing either £3.5m or £4.6m in order to reduce the risk of delaying the overall implementation of the regulations.

## 1.4 Policy objective

17. The overarching policy objective is to ensure that disabled passengers have sufficient information to travel confidently when using local bus and coach services. This aims to improve access to employment opportunities and economic, social, and leisure activities, supporting economic growth and promoting personal wellbeing. Furthermore, by improving the local service transport offer, any resultant increase in patronage will support the government's wider Levelling-Up<sup>15</sup> and decarbonisation<sup>16</sup> agendas. In particular, these Regulations will provide consistency of information provision on services across the country, thereby supporting the Levelling-Up's agenda to remove geographical inequality.
18. In particular, we want to ensure that disabled passengers, including those who have a visual and/or hearing impairment, can be sure that appropriate accessible information will be available on-board services to give them the confidence to travel independently. In doing so, we also want to ensure that operators maintain the flexibility to innovate in the provision of accessible information, choosing the right solution for their individual circumstances, and taking advantage of synergies with the Public Services Vehicles (Open Data) Regulations 2020<sup>17</sup>.

## 1.5 Options considered

### **Option 0 – Do Nothing**

#### *Description*

19. Under Option 0, no intervention would be made, meaning operators would continue to provide audio visual announcement services where this is deemed commercially sensible, socially responsible, or a core element of a quality service. Uptake has been relatively slow under the status quo, with just 30% of buses in England outside London having AV equipment in 2020/21 and is expected to continue to be so under this option.<sup>18</sup>

#### *Effect*

20. In practice, this option would likely result in a continuation of the present situation, with accessible information provided, mainly through traditional audio and visual systems by the largest operators and those operating in a buoyant market. Currently, 70% of buses in
21. England outside of London do not provide AV information<sup>19</sup>. If there were to be no requirement made on operators, we anticipate this figure to decrease only very gradually, and we expect there to be some operators, particularly small operators on marginal routes, who would never decide to install AV equipment if not mandated, as it may not be commercially viable. Furthermore, this situation may have been exacerbated by the pandemic, as passenger numbers are yet to return to pre-Covid levels, whilst operating costs have increased due to increased fuel and staffing costs.
22. As previously indicated, many disabled people, and indeed some non-disabled passengers, lack confidence to travel on a local service because of a perceived absence of information to enable them to identify the route they are on and upcoming stops.<sup>20</sup> We believe that doing nothing

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<sup>15</sup> Levelling Up the United Kingdom, gov.uk, <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>

<sup>16</sup> Transport decarbonisation plan, Department for Transport, <https://www.gov.uk/government/publications/transport-decarbonisation-plan>

<sup>17</sup> Bus Open Data Policy, Department for Transport, <https://www.gov.uk/government/collections/bus-open-data-service>

<sup>18</sup> DfT bus statistics 2020/21, Table BUS0610a, GB outside of London figures are unpublished.

<sup>19</sup> DfT bus statistics 2020/21, Table BUS0610a, GB outside of London figures are unpublished.

<sup>20</sup> Guide Dogs (2014) 'Destination Unknown: An investigation into bus passenger experiences'

would result in a continued focus on AV provision for premium services and those in strong markets, resulting in an inconsistent resolution of such concerns and considerable difference in resulting access to transport for affected groups across the country.

### *Advantages and Disadvantages*

Cost	Not applicable. This option involves maintaining the status quo, and there is therefore no associated cost.
Ease of implementation	Not applicable. This option involves maintaining the status quo.
Policy impact	This option involves maintaining the status quo. This would result in passengers continuing to experience limited benefits owing to the voluntary provision by operators of audible and visible information. However, provision of accessible information is likely to remain inconsistent and at relatively low levels for the foreseeable future. This would in turn continue to inhibit the confidence of some passengers to travel on local services.
Accessibility impact and reaction	<p>Disabled people would continue to face barriers accessing local services owing to a lack of accessible on-board information on the majority of services, and the inconsistency of provision across Great Britain.</p> <p>Government would be criticised for failing to follow through on a commitment given during the passage of the Bus Services Act 2017 and repeated subsequently in Parliament. The Government has also publicly committed to making Accessible Information Regulations in the 2018 Inclusive Transport Strategy, and the 2021 National Bus Strategy.</p>
Industry impact and reaction	<p>This option involves maintaining the status quo and there is therefore no intervention-related impact on the industry.</p> <p>Some parts of the industry would likely welcome a continuation of the status quo, enabling operators to determine the appropriate level of on-board information provided based on business need.</p> <p>However, other parts of the industry, such as AV service providers – e.g., manufacturers and AV installers – would likely prefer more stringent interventions to increase uptake of their services.</p>

### *Conclusion*

23. Whilst doing nothing would not necessarily result in a standstill in the provision of accessible information, experience to date suggests that growth in its provision is likely to remain slow and inconsistent<sup>21</sup>, meaning that passengers (including those who are disabled) will continue to face uncertainty about information provided on-board services. On this basis we do not feel that doing nothing is a viable option for achieving our policy aims.

24. Option 0 is the counterfactual against which the other options will be assessed.

### ***Option 1: Incentivised Code of Practice***

#### *Description*

<sup>21</sup> DfT bus statistics 2020/21, Table BUS0610a, GB outside of London figures are unpublished. Growth has been slow in the previous decade, with majority of growth coming from new bus purchases.

25. Option 1 would involve working with industry bodies, such as the Confederation of Passenger Transport (CPT)<sup>22</sup>, to develop and implement a Code of Practice on the provision of accessible information on-board local services. Adherence to the Code would be encouraged through the creation of an accreditation scheme, awarding signatory operators with a “mark” or award to highlight their commitment.

*Effect*

26. An existing Code of Practice on the carriage of mobility scooters on-board buses, developed with and marketed by CPT, has had some success in embedding a more consistent approach to the assessment and acceptance of mobility scooters and the training of their users across parts of the bus industry. Unlike the policy on the provision of AV, adherence with mobility scooters requires little financial investment on the part of operators however, and nor does it affect their core offering for the majority of customers. Furthermore, whilst adopted widely, it is by no means universal in its coverage of the local service sector in England, Scotland, and Wales.
27. An accreditation scheme would only be on a voluntary basis and is only likely to have a significant effect in a competitive environment as a means of signalling. For instance, the voluntary option to obtain a food hygiene certificate from the Food Standards Agency enables businesses to signal to customers to choose them over other competitors. However, the bus and coach market has relatively low levels of competition and there tends to be only a few operators in each specific area. Given this, we do not believe that there are sufficient commercial incentives to encourage use of a voluntary accreditation scheme and thus this option would likely not achieve the level of coverage sought.
28. It is likely that operators that currently believe the cost of installing equipment to provide accessible information is unjustifiable would continue to do so, and that those which do not see it as an integral aspect of their product would be unlikely to change their minds. Those operators which already take a proactive approach to information provision and accessibility conversely, would likely adopt the Code, and benefit from the accreditation system.
29. Further, adherence with the Code of Practice would likely be difficult to audit without significant resourcing, with potential negative reputational consequences for Government or other related bodies, if publicly supporting an accreditation scheme is seen to be unreliable.
30. Additionally, a “mark” of accreditation may not be beneficial to those passengers for which accessible information is targeted at, such as those with visual impairments, who would be unable to recognise if a vehicle is included as part of the scheme. This may mean that the effectiveness of this policy in increasing confidence to travel is limited.
31. It is possible that a variant of this option could support early adoption of systems providing audible and visible information applying to operators ahead of any legislative requirement taking effect, but the overall impact of this is likely to be limited.

*Advantages and Disadvantages*

<p>Cost</p>	<p>Advantage</p> <p>We have taken a proportionate approach and not fully assessed the costs of this option but believe that costs relating to administration and accreditation would be lower than those for the legislative options, and any costs relating to vehicle inspection would not be an additional burden to Traffic Commissioners on top of the inspections already undertaken. There will be familiarisation costs for operators to read up on the Code of Practice, at most these will be comparable to the familiarisation costs in the legislative options. It is anticipated that operators would continue to make decisions about the level of accessible information provided on the basis of business factors, so there would likely be little overall cost to the industry.</p>
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<sup>22</sup> CPT are representatives for the UK’s bus and coach industry, their website can be found at <https://www.cpt-uk.org/>.

Ease of implementation	<p>Disadvantage</p> <p>It would take time to develop, consult on, and implement both a Code of Practice and an accreditation scheme, potentially longer than the time required to introduce secondary legislation from this point. However, it is unlikely that legislation would be required.</p> <p>It is likely that it would take time for use of the Code to become normalised within the industry, with some operators potentially waiting until the effect of the accreditation scheme has been demonstrated.</p>
Policy impact	<p>Disadvantage</p> <p>Whilst comparable Codes of Practice have had some success in encouraging change, we believe this would be unlikely in this circumstance due to the widespread belief amongst some operators of a lack of commercial viability for systems providing audible and visible information, as evidenced by the current lack of provision in Great Britain outside London.</p> <p>It is possible that a gradual increase in the provision of accessible information may be observed, but coverage would likely remain inconsistent, leaving the policy aims unmet for some time to come.</p>
Accessibility impact	<p>Disadvantage</p> <p>Government would be seen to take some action on the issue of improving on-board information, however it would face significant criticism for failing to follow-through on commitments given during the passage of the Bus Services Act 2017, and repeated subsequently in Parliament, and in the Inclusive Transport Strategy 2018 and the National Bus Strategy 2021. The provision of on-board information would also likely remain patchy and skewed to profitable routes, leaving the marginal/unprofitable and likely rural routes more inaccessible. This would reduce disabled passengers' confidence-improving potential of the overall policy.</p>
Industry impact	<p>Advantage</p> <p>Such an approach would likely be welcomed cautiously by the industry on the basis that it would provide a framework helping those wishing to improve their on-board information to do so. There would be few negative consequences as the provision of accessible information would remain voluntary, although the industry as a whole would not benefit from the consistent provision of audible and visible information would provide.</p>

*Conclusion*

32. Whilst this option could prompt an increase in the availability of accessible information on local services, this is likely to remain inconsistent across the country, and therefore fail to give passengers confidence in the majority of services providing it. Further, the proposed accreditation scheme, required in order to incentivise adoption of the Code, would require a level of resourcing comparable to that for enforcing Regulatory compliance, but without the benefits that a legislative approach could render.
33. We therefore do not believe that this option could fulfil our policy aims.

***Option 2: Accessible Information Requirement affecting local services, with two-tiered delayed requirement depending on the age of vehicle.***

*Description*

34. Options 2 and 3 have the same core approach but are differentiated by the speed of implementation.

#### Core Approach

35. Options 2 and 3 would require the provision of audible and visible information on local services throughout England, Scotland, and Wales except for the following vehicles which would be exempted from the requirement: those designed to carry fewer than seventeen passengers, tour services, vehicles first used before 1<sup>st</sup> January 1973, and services which register a portion of their route as a local service, but which are predominantly long-distance.

36. There would be a time-limited exemption from the technical requirements for vehicles with existing AV information for which the audible information can be heard by at least 50% of seated passengers on either deck, and the visible information can be viewed by at least 25% of seated passengers on either deck. This criterion would ensure that the AV system is suitable for providing onboard information for passengers without needing to comply with every aspect of the technical requirements in the Regulations. Such services would still be required to provide the route and direction, destination, final stopping place, stop names, diversions, and information about hail and ride services where applicable from the date of Commencement. As these services would already have AV equipment capable of providing such information, it appears unlikely that there will be additional costs to industry in providing it. Additionally, it would ensure the AV equipment was being used consistently as early as possible for the benefit of passengers.

37. The points at which information must be provided and the standards that information should meet would be prescribed in Regulations. However, any vehicle first used on or after 1 April 2024 would have an additional requirement to provide visual information for passengers in a wheelchair space – including spaces in which a wheelchair is designed to face backwards. This is intended to ensure that wheelchair users benefit from both the audible and visible information. This is particularly important for wheelchair users who have a hearing impairment which prevents them from benefitting from the audible announcements. However, due to the cost and physical practicalities of retrofitting, we do not intend for any existing vehicle to meet this requirement to provide visible information available to the wheelchair space. As this would only apply for vehicles first used on or after 1 April 2024, this would provide the industry with a year following the commencement of the Regulations to meet the requirement on new vehicles.

38. Services in Wales would need to meet Welsh language requirements, but application in Scotland and Wales would otherwise be identical to England.

#### Implementation Approach

39. Application of the requirement for non-exempt local services would be delayed from the date of commencement for between one and three years, depending upon the age of the vehicle in question. This is intended to balance the need to deliver benefits for passengers with the cost and logistics of installing audio-visual equipment. Details of the implementation timescales are summarised below:

40. Vehicles without existing AV to meet all of the requirements (apart from those relating to providing visible information for passengers in the wheelchair space):

- First used on or after 6 April 2022 must comply by 6 April 2024.
- First used on or before 5 April 2022 must comply by 6 April 2026.

41. As referenced above under the Core Approach, vehicles with existing AV (of a certain criteria) would be subject to providing the required information on route and direction, next stop, and diversions on the date of commencement (6 April 2023). However, these vehicles would have a time-limited exemption for 8 years following commencement for complying with the technical requirements (i.e. the requirements for how the audible and visible information must be provided).

42. Additionally, and also referenced under the Core Approach, vehicles first used from or after 6 April 2024 would be subject to the additional requirement to provide visible information available for passengers in a wheelchair space (including those which face backwards on a vehicle).
43. Application of the requirements will not vary by size of operator, but small operators (expected to cover operators with 20 or less vehicles) will be eligible to apply for funding through the Accessible Information Grant to help mitigate the costs of installation. There is expected to be sufficient funding to cover the majority of equipment costs for all operators with 20 or fewer vehicles, though the criteria are still to be determined.

*Effect*

44. Option 2 is intended to introduce the requirement in a proportionate manner, prioritising early compliance by those purchasing new vehicles, whilst recognising that those relying upon older vehicles may need longer to prepare for implementation and to reflect any additional costs in their business models.
45. Within three years after implementation, passengers travelling in Great Britain would be able to travel with confidence that virtually every service will incorporate audible and visible information provision. Those travelling on services which use more modern vehicles will be able to expect it earlier. Whilst provision would be inconsistent between the one and three year points, potentially detracting from some of the benefits, particularly for disabled travellers using a variety of services, the overall implementation period would remain relatively fast.
46. We also expect that this option would allow different parts of the industry to adjust to the new requirements, either in updating the specification of new vehicles, or in retrofitting existing ones. The implementation timescales recognise that it is unlikely to be commercially feasible to retrofit vehicles nearing the end of their life (assumed to be seventeen years), whilst not providing a blanket exemption for vehicles that remain in service for considerably longer.

*Advantages and Disadvantages*

<p>Cost</p>	<p>Partial Advantage</p> <p>Overall, the Accessible Information Regulations would result in increased one-off and ongoing costs for operators, relating to the installation of equipment to provide audible and visible information, its maintenance, and associated back office tasks. The benefit to operators of providing audible and visible information is however significant, owing in part to consequent increases in patronage. It is also anticipated that options 2 and 3 would stimulate growth in the market for technology providing audible and visible information, thus potentially reducing the cost of associated products.</p> <p>The timing of this option focuses short term costs on those areas of the industry where it is likely to be manageable. The cost of incorporating systems to provide audible and visible information are likely to be lower as a proportion of the value of new and nearly new vehicles, than as a proportion of the value of older vehicles, and the timescales indicated are intended to reflect this difference.</p> <p>The upfront costs associated with this option for smaller operators would be mitigated via the Accessible Information Grant. However, there would remain some risk that the most marginal of services would continue to face disproportionate costs, particularly those relating to the provision of associated back office services which is an on-going recurring cost every year and thus represents a significant proportion of the total costs.</p>
<p>Ease of implementation</p>	<p>Advantage</p>

	<p>This option would use the powers at Sections 181a-181d of the Equality Act 2010, as inserted by Section 17 of the Bus Services Act 2017, to make Accessible Information Regulations and associated guidance.</p> <p>We would subsequently support the industry, representative organisations, and the Traffic Commissioner to implement and enforce the requirements.</p>
Policy impact	<p>Advantage</p> <p>The core aims of the policy would be achieved, particularly in relation to the provision of a technology neutral, consistently applied requirement, available to passengers within a relatively short period of time, providing the information necessary for passengers to feel more confident when travelling on a local service.</p> <p>It would also support the industry to respond to the requirement by providing reasonable timescales in order for operators to comply.</p> <p>However, there would remain some residual risk that operators of the most marginal of services would not be able to absorb the related ongoing costs, and that networks would contract as a result. Though this would be eased by the Accessible Information Grant for smaller operators and exemptions for certain vehicles.</p>
Accessibility impact	<p>Advantage</p> <p>The core approach would be welcomed by representatives of disabled people as it would help to remove a significant barrier preventing many people from accessing local services and the employment, social, and leisure activities to which they facilitate access.</p> <p>Organisations representing disabled people may question the inconsistency of application between years one and three, and given that the majority of vehicles will fall into the category with the longer deadline, the benefit to passengers of audible-visible information will not accrue until a few years after implementation. However, given that the original ask from some such organisations was only for a requirement affecting new vehicles, it is hoped that such criticism will be minimal.</p>
Industry impact	<p>Partial Advantage</p> <p>The approach is likely to be accepted by those areas of the industry where the provision of audible and visible information is becoming a more viable proposition. The industry as a whole will likely be concerned at the speed of implementation, and on the effects on marginal routes. However, it is hoped that the technology neutral approach will enable operators to innovate in the provision of audible and visible information and so constrain associated costs. It is also hoped that the widespread provision of accessible information will make travelling by local service a more natural proposition for many people beyond the target group for this policy, leading to higher usage and fare box revenue.</p> <p>This option should be welcomed for its recognition of the challenge that smaller operators and those reliant on older vehicles would face in absorbing additional costs. They may however feel that the timescales are insufficient and that, in any case, even larger operators will struggle to justify the related costs for marginal routes that they operate.</p>

### Conclusion

47. This option would result in the majority of passenger journeys being undertaken on services incorporating audible and visible information provision within a relatively short period of time. However, it will likely result in slower provision across the country, relative to the other legislative

option (option 3), with passengers potentially not benefiting from the improvements for a few years. Whilst it would remove the risk of disproportionate burdens from the smallest of operators, there would be a small risk of network contraction owing to the operation of marginal routes by operators above the twenty vehicle threshold, though this is unlikely to be significant due to the scale of the net costs. It is expected that exemptions for specific types of services, the Accessible Information Grant for small operators, and the technology neutral approach and consequent development of cheaper approaches for providing accessible information would mitigate this.

48. Given the potential delay of application on the majority of local services compared to the other legislative option, we do not recommend this option.

***Option 3: Accessible Information Requirement affecting local services, with three-tiered delayed requirement depending on the age of vehicle (Preferred Option).***

*Description*

49. Options 2 and 3 have the same core approach but are differentiated by the speed of implementation.

*Core Approach*

50. The core approach is identical for options 2 and 3 [covered under paragraphs 34-37].

*Implementation Approach*

51. Application of the requirement would be delayed from the date of Commencement for between one and three years, depending upon the age of the vehicle in question, in order to balance the need to deliver benefits for passengers with the cost and logistics of installing audio-visual equipment. Details of the implementation timescales are summarised below:

52. Vehicles without existing AV to meet all of the requirements (apart from those relating to providing visible information for passengers in the wheelchair space):

- First used on or after 6 April 2019 must comply by 6 April 2024.
- First used on 6 April 2014 to 5 April 2019 inclusive must comply by 6 April 2025.
- First used on or before 5 April 2014 must comply by 6 April 2026.

53. As referenced above under the Core Approach, vehicles with existing AV (of a certain criteria) would be subject to providing the required information on route and direction, next stop, and diversions on the date of commencement (6 April 2023). However, these vehicles would have a time-limited exemption for 8 years following commencement for complying with the technical requirements (i.e. the requirements for how the audible and visible information must be provided).

54. Additionally, and also referenced under the Core Approach, vehicles first used from or after 6 April 2024 would be subject to the additional requirement to provide visible information available for passengers in a wheelchair space (including those which face backwards on a vehicle).

55. Application of the requirement will not vary by size of operator, but small operators (expected to cover operators with 20 or less vehicles) will be eligible to apply for funding through the £3.5m - £4.6m Accessible Information Grant to help mitigate the costs of installation. There is expected to be sufficient funding to cover the majority of equipment costs for all operators with 20 or fewer vehicles, though the criteria are still to be determined.

56. The following table provides a comparison between the implementation timescales for options 2 and 3:



Option	To comply by 6 April 2024	To comply by 6 April 2025	To comply by 6 April 2026
2	First used on or after 6 April 2022	N/A	First used on or before 5 April 2022
3	First used on or after 6 April 2019	First used on 6 April 2014 to 5 April 2019 inclusive	First used on or before 5 April 2014

### Effect

57. Option 3 is intended to introduce the requirement in a proportionate manner, prioritising early compliance by those purchasing new vehicles, whilst recognising that those relying upon older vehicles may need longer to prepare for implementation and to reflect any additional costs in their business models.
58. Within three years after implementation, passengers travelling in England, Scotland, and Wales would be able to travel with confidence that virtually every service has audible and visible information provision. Those travelling on services which use more modern vehicles would be able to expect it earlier. Whilst provision would be inconsistent between the one and three year points, potentially detracting from some of the benefits, particularly for disabled travellers using a variety of services, the overall implementation period would remain relatively fast, and a higher proportion of vehicles would be providing audible and visible information before the three year deadline, relative to the other legislative option.
59. We also expect that this option would allow different parts of the industry to adjust to the new requirements in a more flexible manner, either in updating the specification of new vehicles, or in retrofitting existing ones. The implementation timescales recognise that it is unlikely to be commercially feasible to retrofit vehicles nearing the end of their life (assumed to be seventeen years), whilst not providing a blanket exemption for vehicles that remain in service for considerably longer.

### Advantages and Disadvantages

Cost	<p>Partial Advantage</p> <p>Overall, the Accessible Information Regulations would result in increased one-off and ongoing costs for operators, relating to the installation of equipment to provide audible and visible information, its maintenance, and associated back office tasks. However, the benefit to operators of providing audible and visible information is significant, owing in part to consequent increases in patronage. It is also anticipated that options 2 and 3 would stimulate growth in the market for technology providing audible and visible information, thus reducing the cost of associated products.</p> <p>The timing of this option focuses short term costs on those areas of the industry where it is likely to be manageable. The cost of incorporating systems to provide audible and visible information are likely to be lower as a proportion of the value of new and nearly new vehicles, than as a proportion of the value of older vehicles, and the timescales indicated are intended to reflect this difference.</p>
Ease of implementation	<p>Advantage</p> <p>This option would use the powers at Sections 181a-181d of the Equality Act 2010, as inserted by Section 17 of the Bus Services Act 2017, to make Accessible Information Regulations and associated guidance.</p>

	<p>We would subsequently support the industry, representative organisations, and the Traffic Commissioner to implement and enforce the requirements.</p> <p>The implementation timescales are intended to bring consistency of services across the country in a timely manner, whilst giving operators sufficient time to plan, purchase, and install the equipment on their fleet.</p>
Policy impact	<p>Advantage</p> <p>The core aims of the policy would be achieved – particularly in relation to the provision of a technology neutral, consistently applied requirement – for passengers within a relatively short period of time, providing the information necessary for passengers to feel more confident when travelling by local service.</p> <p>It would also support the industry to respond to the requirement, requiring those operators able to invest in the provision of information to do so, and giving others longer to comply, mitigating some of the negative effect of the additional costs they would incur.</p> <p>However, there would remain some residual risk that operators of the most marginal of services would not be able to absorb the related ongoing costs, and that local service networks would contract as a result. Though this will be mitigated by the Accessible Information Grant for small operators and exemptions for certain vehicles and services.</p>
Accessibility impact	<p>Advantage</p> <p>The core approach would be welcomed by representatives of disabled people as it would help to remove a significant barrier preventing many people from accessing local services and, in turn, the employment, social, and leisure activities to which they facilitate access.</p> <p>Organisations representing disabled people may question the inconsistency of application between years one and three. However, relative to the other legislative option, a greater proportion of local services will have installed audible and visible information more quickly, therefore the accessibility benefit to passengers will be realised sooner – despite some short-term inconsistencies. Given that the original ask from some such organisations was only for a requirement affecting new vehicles, it is also hoped that such criticism will be minimal.</p>
Industry impact	<p>Partial Advantage</p> <p>The approach is likely to be accepted by those areas of the industry where the provision of audible and visible information is becoming a more viable proposition. The industry as a whole will likely be concerned at the speed of implementation, and on the effects on marginal routes. However, it is hoped that the technology neutral approach will enable operators to innovate in the provision of audible and visible information and so constrain associated costs. It is also hoped that the widespread provision of accessible information will make travelling by local services a more natural proposition for many people beyond the target group for this policy, leading to higher usage and fare box revenue.</p> <p>This option should be welcomed for its recognition of the challenge that smaller operators and those reliant on older vehicles would face in absorbing additional costs. However, they may feel that the timescales are insufficient and that, in any case, even larger operators will struggle to justify the related costs for marginal routes that they operate.</p>

## Conclusion

60. This option would result in the majority of passenger journeys being undertaken on services incorporating audible and visible information provision within a relatively short period of time. Whilst it would remove the risk of disproportionate burdens from the smallest of operators, there would be a slight risk of network contraction owing to the operation of marginal routes by operators above the vehicle threshold for grant funding. It is also expected that the technology neutral approach and consequent development of cheaper approaches for providing accessible information would mitigate this.
61. Option 3 balances the need to make swift progress in providing audible and visible information consistently across the local service network in England, Scotland, and Wales with realistic timescales for implementation which focus on short term costs on those areas of the industry where it is likely to be manageable. This approach has three implementation timescales in order to maximise the lifespan of the provision of onboard information for newer vehicles, whilst ensuring that operators have a choice to either provide onboard information or purchase a new vehicle for vehicles which are reaching, or have reached, the end of their expected lifespan.
62. Two years following the expected commencement date, vehicles which are up to 11 years old would need to comply under option 3. This would maximise the longevity of the audible and visible information, as those vehicles will be expected to operate for a minimum of another six years (based on the average 17 year average lifespan of a vehicle<sup>23</sup>). In comparison, under option 2, only vehicles which are at least two years old would need to comply two years following the commencement date. This would mean that any vehicle aged between 3-11 years old would not be required to comply until a year later, when they would have already been compliant, and therefore benefitting passengers, under option 3.
63. Furthermore, option 3 reduces the risk of demand exceeding supply leading up to the date of compliance, as it has 3 separate compliance years in comparison to 2 under option 2. Therefore, under option 2, there is a risk that, should operators decide not to arrange installation well in advance of the date of compliance, the demand for AV equipment could bottleneck, leading to vehicles not meeting the compliance date. Whereas option 3 sets out a clear framework for operators to develop their plans by segmenting the vehicles into 3 separate years. This intends to manage the demand for AV systems over the course of the 3 years.
64. We originally consulted on our intentions for Accessible Information in 2017. Therefore, by the time of the intended commencement date in April 2023, operators will have had 6 years to prepare for the Regulations. They will then have between 1-3 years to comply, dependent on the age of their vehicle. This will ensure audible and visible information is provided on all relevant vehicles across the country within a reasonable timeframe. Therefore, we consider option 3 to be a proportionate approach, balancing operator capabilities with passenger expectations.
65. In summary, as the implementation timescales balance the provision of accessible information for disabled passengers in a timely manner with the practical implications of doing so, option 3 is our preferred option.

## 2.0 Costs and Benefits

### 2.1 Option 0 – Do Nothing

66. A key assumption underpinning the potential impacts of this policy is the level of provision of audio and visual announcements in the absence of the policy. Published and unpublished DfT bus statistics have been used to understand the current prevalence of audio-visual (AV) technology in vehicles operated by operators of local services. Where available, data used for the analysis has been taken for Great Britain (or England where GB is not available), excluding London. This is because virtually 100% of London's local services already have audio-visual technology installed, and so the additional effect of this policy in this area is expected to be slight.

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<sup>23</sup> Based on informal engagement with operators who indicated a life expectancy between 15-20 years. A central estimate of 17 years has been taken.

67. We have used this data to estimate the number of audio-visual installations in local services at present and how we expect this to change over time if the policy were not introduced. The proportion of vehicles with AV technology in 2023, when the policy is first implemented, has been forecast based on previous trends (using 8 years of data). Greater weight has been given to more recent figures, such that there are diminishing marginal increases in the proportion of vehicles with AV technology. The average 8-year growth rate was not considered appropriate to apply to future years, as this would imply that by a certain timepoint, 100% of operators will have installed AV technology. The smoothing method has thus been adopted to reflect the fact that we expect some operators, particularly smaller operators, to never fit AV in the “do nothing” scenario, as it would not be commercially viable. This is supported in the data, as between 2014 and 2020, the overall proportion of buses in England outside of London with AV information only increased from 8% to 20%<sup>24</sup>. There is high uncertainty over the duration of the impacts of Covid-19 and its effect on operator behaviour, which may mean that future AV technology trends in the absence of policy would be different to our forecasts. We have therefore varied the forecasted growth rate each year by +/-50% to demonstrate how sensitive our analysis is to this assumption. Assumptions on other “do-nothing” forecasts, such as the number of buses in operation, passenger journeys, and distance travelled, have a smaller impact on the costs and benefits of the policy than AV prevalence. However, sensitivity analysis of +/-50% of the growth rate has also been conducted to account for uncertainty in our estimates.

68. A brief description of the costs and benefits estimated is given below. For a more detailed methodology, explaining how these impacts have been monetised and the key assumptions used, please refer to the Analytical Annex. All impacts listed below are undiscounted in 2019 prices and are appraised over a ten year period from 2023 to 2032.

## 2.2 Definition of small operators

69. Based on Public Service Vehicles (PSV) survey data, small operators have been defined as operators with 20 or fewer public service vehicles.<sup>25</sup> The government is proposing to introduce the Accessible Information Grant to help fund the equipment costs for operators with 20 or less public service vehicles, in order to ensure that the effects of the regulations are not imposing disproportionate costs on these smaller operators. These regulations could be particularly costly to small operators as there are fixed costs of the Regulations, mainly due to the equipment costs and back office costs associated with system management.

70. If the definition of small operators was expanded to all operators with 30 or less public service vehicles, it would cover 375 operators and 8% of applicable vehicles. While if it was reduced to only include operators with 10 or less public service vehicles, 259 operators would be included with 3% of applicable vehicles. Due to the majority of local service vehicles being owned by a few large operators, and the fact that if the threshold was increased by 50%, fewer than 10% of the total vehicles would be in scope, this assumption is considered to be an acceptable simplification.<sup>26</sup>

## 2.3 Impacts for policy options 0 and 1

71. Option 0 is the do nothing option against which all other options are compared, therefore this has not been monetised. The only monetised impacts of option 1 will be the familiarisation costs to operators, which at most we believe would be comparable to those for the legislative options. There will be some costs associated with the admin required to inspect and award accreditation, but these are expected to be a slight additional burden on top of existing inspections and have not been monetised due to lack of data. Any additional costs incurred in option 1 would be optional to operators given the provision of audio-visual (AV) information isn't mandatory, therefore these have not been assessed.

## 2.4 Monetised costs

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<sup>24</sup> DfT bus statistics 2020/21, Table BUS0610a

<sup>25</sup> Internal PSV Survey Data

<sup>26</sup> Internal PSV Survey Data

## 2.4.1 Costs to operators

### 2.4.1.1 Familiarisation costs – for small and large operators in all policy options

72. Operators will face some minor costs of familiarising themselves with the policy changes and understanding the steps they will need to take to comply with the new regulations. It is assumed that, for every operator, one employee will have to spend between two and eight hours to familiarise themselves with the new legislation and how they will comply. These costs will be a one-off transition cost but have been assumed to be spread evenly over the three years before all operators are mandated to comply with the policy in options 2 and 3 and spread evenly over the 10 year appraisal period for option 1, given there is no deadline for any implementation. The overall familiarisation costs for all operators are expected to be approximately £14,000-£58,000 across the appraisal period, regardless of the option chosen.
73. Given that our evidence suggests that a large proportion of local coaches are operated by local bus operators – including a strong market share from one large bus operator – no additional familiarisation costs are included for coaches.

### 2.4.1.2 Equipment and installation costs – for small and large operators who have to provide audio-visual announcements

74. The policy does not specify that operators must install a certain technology in order to comply with the regulation (other than the induction loop requirement), it only states that operators must provide audible and visual announcements to certain requirements. It is therefore assumed that large and small operators will install different AV technologies in order to comply with the regulations – larger operators may opt for more advanced and expensive AV equipment solutions as they have the capital available to invest in it and can benefit from lower prices associated with bulk buying equipment.
75. Equipment and installation cost estimates for large operators have been provided by the Real Time Information Group (RTIG), a trade body for public transport technology stakeholders, as well as by AV technology suppliers. Costs have been presented as a low, central, and high scenario to account for the uncertainty in the estimates. Based on the rationale above, we anticipate that smaller operators are more likely to opt for cheaper technology solutions – the central cost estimate for large operators has been taken as the high scenario for small operators with the same low estimate being used and the central estimate being the midpoint between the high and low scenarios.
76. This legislation has exemptions for local, but closed home-to-school services. Evidence and engagement with stakeholders suggest coach services run most of these services. In the absence of better data, it is assumed that all buses that run local bus services could be in the scope of these regulations.
77. The overall equipment costs to large operators are estimated to be between £5m and £64m, depending on the price of equipment chosen and the growth of the bus fleet. This range of costs is similar between Options 2 and 3. The Accessible Information Grant is expected to help fund the cost of equipment for small operators, therefore this amount is taken off the total small operator equipment costs and is presented as a positive cost to government in the analysis.
78. The data that we have on the equipment and installation costs of AV technology are best estimates based on engagement with trade bodies and AV technology suppliers. There has been no optimism bias applied to the costs of installing the technology, as we consider the values used in the central scenario to be conservative based on the fact that the estimates from suppliers have typically fallen into the lower end of the range. Additionally, as the market for AV technology is growing, it is likely that there will be increased competition, economies of scale whereby large quantities are able to be produced more cheaply per unit due to scale, and stimulated growth due to higher demand which may drive down prices over time. We have been unable to monetise this, as the effects of these changes are difficult to predict both temporally and in scale. For example, these effects could only be noticeable 7 years into the Regulations lifespan, meaning a price change only occurs 7 years into the analysis. Given the wide range of scenarios for these price changes, we have not included them. Due to a lack of data, we have

not been able to distinguish between costs of installing AV on new vehicles as opposed to retrofitting but these are not expected to be vastly different and are sufficiently covered by the high and low equipment cost scenarios.

79. An additional cost of £1,000-£2,000 is included in the total equipment cost estimates for vehicles which are first used on or after 6 April 2024 for the provision of visual information provided for passengers in a backward facing wheelchair space (£1,000 for low, £1,500 for central and £2,000 for high estimate). This estimate is also based on engagement with trade bodies and industry.
80. For coaches, the same equipment cost estimates as for small bus operators has been used. Although RTIG have advised that we might expect installation costs for coaches to be 20-25% greater than for buses, this would be balanced out by lower equipment costs since most coaches are single decker and thus require less AV equipment compared to a double decker bus. No additional costs have been added for coaches to provide visual information for passengers in a backward facing wheelchair space, as we understand from an experienced stakeholder which carries out accessible conversions on coaches, that most, if not all, coaches have forward facing wheelchair spaces.
81. Zemo, an industry body, estimated the total number of coaches running intercity scheduled services at 1250 in 2018, in the UK.<sup>27</sup> This represents the largest possible set of vehicles it is believed could be in the scope of these regulations. The other estimated types of coach journeys: touring, tourist day trips, leisure, and school services (scheduled), are outside the scope of this regulation.
82. The true number is likely to be less than 1250, as the services must be at least 50% local to be governed by these regulations. However, these regulations cover Great Britain, and not just the UK. In the absence of better data, this figure has been used to estimate the potential costs to business. Local coach services have not been split out into small and large operators due to a lack of data on operator sizes. The overall equipment costs to local coach operators are estimated to be between £2.7m to £4.2m depending on the price of equipment chosen. .

#### *2.4.1.3 Back office costs – for small and large operators who have to provide audio-visual announcements*

83. Operators are expected to incur ongoing back office costs in order to monitor and run AV technology on their vehicles, including the costs of programming the AV technology with route data, recording the audio announcements, maintaining the technology, and ensuring that route data is up-to-date. We expect that these costs will be higher for large operators than for small operators as, for example, stop validation will be more extensive for a larger operator who has many different routes.
84. For large operators, they are assumed to require between 10-40 FTE hours per week, with the upper limit assuming 1 FTE hired on a permanent basis. Full-time equivalent (FTE) refers to a unit of work which equates to full time employment at a business. For small operators, we assume a range of 1-4 FTE hours per week of overtime which will be required. Both of these are DfT's best estimates and have been sense checked with operators as well as industry representatives RTIG. The overall back office costs are expected to be between £0.7m and £2.6m per year for large operators and £0.2m to £0.9m per year for small operators. The central estimate works out to be approximately £9,700 per year for large operators and £1,700 per year for small operators, which as a proportion of their total operating costs is likely to be small<sup>28</sup>.

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<sup>27</sup> An Analysis of the UK Coach Market (2020), LowCVP,

<https://www.zemo.org.uk/assets/reports/LowCVP%20Coach%20report%202020%20web%20version%20V2.pdf>

<sup>28</sup> According to published bus statistics (Table BUS0406), total operating cost on local bus services in GB outside of London in 2018/19 (the last full year before Covid) was £3.9bn, which works out to be roughly £7.7m per operator averaged across all 507 operators, as given by PSV survey data.

85. Given that our evidence suggests that a large proportion of local coaches are operated by local bus operators – including a strong market share from one large bus operator – no additional back office costs are included for coaches.

#### *2.4.1.4 Upskilling costs – for small and large operators who have to provide audio-visual announcements*

86. Operators are expected to incur a one-off cost to upskill their drivers to operate the new AV technology, though we anticipate any upskilling to be light touch due to the expected automation of AV systems. Intel from operators supported this assumption that any training of staff relating to the operation of AV equipment will be minimal. We assume that this may be combined with existing training for drivers.

87. It has been assumed that each driver may require an additional 10-30 minutes to be trained on the new technology. The total driver upskilling costs are estimated to be between £0.1m and £0.3m, which are assumed to be spread evenly over the three years before all operators are mandated to comply with the policy. To note, this is likely to be an over-estimate because driver numbers have fallen recently in line with services which may reduce this cost.

88. The upskilling costs for coach drivers have not been included as the local coach industry is a small fraction of the overall local service industry. Given that upskilling costs for bus drivers was only £0.1m-£0.3m, it is expected that the figure for local coach drivers will be slight. Furthermore, the estimate for bus operators is already an overestimate as it includes the staff employed for non-local work by operators who also run local bus services, and so including costs for coach drivers would risk overestimating the analysis further.

#### *2.4.1.5 Summary of cost to operators*

89. This policy is expected to increase the fixed costs for operators; however, the financial burden is expected to be slight when compared with overall operating costs for the whole sector in GB outside of London (approximately £3.9bn in 2018/19). The 2023 net present value impact on bus operators in the first year of the policy in the preferred option (-£13.5m) represents only 0.34% of the total operating costs in 2018/19, therefore it is unlikely that the increased costs to operators as a result of the policy will have a significant impact on the provision on local services.

90. This increase in operating costs will be disproportionately burdensome for smaller operators and those operating marginal routes which may not be as commercially viable. However, it is hoped that the Accessible Information Grant will help to mitigate the risk of these operators reducing services as a result of increased costs of the policy. Further explanation of the risks and mitigations can be found in section 3.

### **2.4.2 Costs to passengers of higher fares**

91. It is assumed that operators will pass on any increased costs to passengers in the form of higher fares. However, this impact on passengers is expected to be slight when the costs are broken down to journey level, meaning it is highly unlikely operators would increase fares as a result. If we take the total present value to bus operators in the first year of the policy (-£13.5m) and divide it by the expected number of passenger journeys in that year (2,273,548,966), it totals an increased cost of £0.01 per journey in the first year of implementation. The costs in subsequent years will be considerably lower than this, due to high initial equipment and installation costs when the policy is first implemented.

92. The average 2018/19 bus operating revenue per passenger journey (used as a proxy for average bus fare due to absence of better data) was approximately £1.63. Assuming the full cost to operators is passed on to bus passengers through increased fares, an increase of £0.01 per journey will be a negligible extra cost to passengers and is unlikely to significantly affect bus fares and demand.

### **2.4.3 Costs to government**

#### *2.4.3.1 Loss of indirect tax revenue*

93. The regulation will likely encourage greater use of local services, and therefore reduce the number of people travelling by car. The government receives tax revenue from each car user through taxes such as fuel duty. Therefore, the government's revenue will reduce if travellers switch from car to local bus and local coach services, though this will be offset by an increase in revenue from bus fuel tax. The costs to government in terms of a loss of tax revenue range from -£0.02m (therefore, a benefit) to £9m across options 2 and 3.

#### 2.4.3.2 Subsidy to small operators

94. There will be a one off cost to government to help support small bus and coach operators with the provision of AV equipment through the Accessible Information Grant. This grant amount will be between £3.3m and £4.3m, in 2019 prices.

## 2.5 Unmonetised costs

### 2.5.1 Enforcement costs

95. It is likely that there will be some costs for Traffic Commissioners who will have to enforce compliance from operators with these policies. However, these are expected to be a slight additional burden on top of the compliance checks that are already undertaken. Enforcement costs of the policy have therefore not been monetised due to proportionality and a lack of data. This was not targeted with questions in the consultation.

### 2.5.2 Concessionary reimbursement payments

96. There could be a cost to government to reimburse operators for the increase in journeys made by older and disabled people with a concessionary travel pass<sup>29</sup>, however, this has not been monetised for the following reasons:

97. The total increase in patronage of the preferred option is expected to be 0.5% in the first year of the policy in the central scenario (0.3% and 0.8% in the low and high scenarios, respectively) and lower in the subsequent years. Even if 100% of the increase in patronage results from older and disabled passengers who use concessionary bus passes – which would be an overestimate as they typically only account for 22% of passenger journeys, and a proportion of the increase in journeys is expected to be attributed to modal shift – we estimate that the change in concessionary travel will not change the peak vehicle requirement costs, which represent a large proportion of reimbursements. In other words, we have not taken into consideration the cost of providing additional services due to the increased volumes of passengers. It is difficult to obtain a robust estimate of an average marginal capacity cost based on our existing reimbursement calculator, as it is meant to be used on a route by route basis. However, we expect that the increase in demand will not be enough for operators to run additional services due to existing spare capacity.

98. To accurately cost this we would need route level patronage and bus capacity, which we do not have access to. While question were asked about the suitability of the analysis in the consultation, we did not receive any relevant responses on this. The question asked in the consultation was *'Do you agree with our analysis of the costs and benefits of the preferred option, as indicated in the consultation-stage Impact Assessment? Please explain your response.'*<sup>30</sup>

99. Additionally, most Travel Concession Authorities (TCAs) are currently still paying out at a higher level than the normal practice of reimbursing costs of actual journeys by passholders. This is a key element of public support to maintain local services throughout the pandemic and recovery. In order to provide Local Authorities with a transition plan for moving away from paying out at pre-covid levels, the Department issued Local Authorities with guidance at the end of October 2021. This set out a possible plan for Local Authorities to gradually reduce their concessionary reimbursements from April 2022 by 5% every month from 90% of pre-Covid levels until

<sup>29</sup> Travel Concession Authorities staff costs have not been considered.

<sup>30</sup> Bus Services Act 2017: accessible information, Section 14, AIR 18  
<https://www.gov.uk/government/consultations/bus-services-act-2017-accessible-information/bus-services-act-2017-accessible-information-html#impact-assessment>



realignment with actual patronage levels. Due to the impact of the Omicron variant on patronage recovery and subsequent stakeholder feedback, we also issued an Alternative Recovery Strategy, which sets out the same basis. However, since demand is currently below pre-pandemic levels, it is not expected that the small increase in concessionary travel as a result of this policy will be enough to offset the effects of Covid and the general 10-year trend of decline seen in bus patronage. In the central scenario this is estimated to be no more than 0.5% in 2023, assuming 100% of new journeys comes from concessionary travel.

## 2.6 Monetised benefits

### 2.6.1 Benefits to operators

*Increased profits as a result of increased patronage – for small and large operators in options 2 and 3*

100. It is expected that the improved journey quality as a result of the AV technology will lead to increased patronage and thus increased revenues and profits for operators. An increase in operator profitability may result in a benefit to passengers if passed on in the form of lower fares. However, profits are unlikely to be substantial enough to compensate for the initial costs of the AV technology, therefore an increase in fares would be more likely. The expected impact on fares is explained further in section 2.4.2.

101. Total operating revenue and cost in GB excluding London in 2018/19 was approximately £4.4bn and £3.9bn, respectively<sup>31</sup>. The first year net present value impact on bus operators as a result of the preferred option (-£13.5m) would represent a 0.34% increase in the total operating costs, and would subsequently result in a 3% decrease in overall profits, ceteris paribus<sup>32</sup>. This reduction in profits may be disproportionately burdensome for smaller operators and could result in operators reducing services, particularly on marginal routes which may not be as commercially viable. However, the costs of the policy in subsequent years would be significantly lower than the first year costs, due to high initial equipment and installation costs. It is also expected that the Accessible Information Grant and method for implementation will mitigate this risk of service reduction. Further explanation of the risks and mitigations can be found in section 3.

102. An expected increase in demand is supported by a 2021 bus market segmentation research project which showed that passengers are more likely to travel via the bus if there is AV onboard<sup>33</sup>. Our analysis suggests that in the central estimate, AV technology could increase the demand for passenger journeys by up to 0.5% in the first 3 years of the policy (0.3% and 0.8% in the low and high scenarios, respectively).

103. The benefits to operators from increased patronage are calculated using an assumption for the average operating margins of operators. For large operators, the central operating profit value has been calculated using published data on operating revenues and costs. There is uncertainty over these estimates due to the changing macroeconomic environment and the impact of Covid-19, therefore these profit margins have been varied by +/-50% in the high and low scenarios to reflect the uncertainty and the likely differences in operating profits for different operators. It has been assumed that profit margins for small operators are half those of large operators. This is not based on evidence but is felt to be a sensible and conservative assumption for which we received no other estimate at consultation stage.

104. This analysis suggests that the benefits for bus operators as a result of increased patronage could be between £0.8m and £38.7m across options 2 and 3. These impacts depend on future trends in AV provision in the counterfactual, and how responsive demand would be to an improvement in journey quality. These impacts are treated as an indirect benefit to business.

<sup>31</sup> BUS0401 and BUS0406, 2018/19 used as the last full-year before Covid. <https://www.gov.uk/government/statistical-data-sets/bus04-costs-fares-and-revenue>

<sup>32</sup> Old profits = (£4.4bn-£3.9bn) = £452.4m

New profits = (£4.4bn-(£3.9bn+£12.5m)) = £439.9m

<sup>33</sup> Based on 8041 respondents, 50% reported that they would be more likely to travel by bus if audible and visual live travel time information was on board. Publication forthcoming

105. Due to a lack of evidence and data that installing AV equipment on local coach services would increase patronage, and thus profits, this has been excluded from the analysis. However, as most passengers would not differentiate between a local bus and a local coach service, and as the two have similar operational practices, it appears fair to assume that local coach services would also benefit from increased patronage.

## 2.6.2 Benefits to users

106. Users are likely to gain substantial benefits from a policy that requires operators to provide AV announcements. The total benefits to bus users are estimated to be between £182m and £2,766m across options 2 and 3. The main driver of the variation between the high and low values is the generalised journey time saving of audio-visual technology. Sensitivity analysis has been conducted on this in section 2.11. The growth rate in the number of buses operating, passenger journeys, and number of buses that are assumed to have installed AV technology under business as usual has also been varied by +/-50% to capture the uncertainty.

107. Due to uncertainty, the benefits to coach users have not been monetised in this analysis as there is a lack of evidence on the impact that installing AV equipment has on Generalised Journey Time (GJT) savings and thus patronage. However, as most passengers would not differentiate between a local bus and a local coach service, and as the two have similar operational practices, it seems fair to assume that passengers on local coach services would also benefit.

### 2.6.2.1 Benefits to existing bus users

108. Existing bus users will gain benefits from improved journey quality of having AV information, such as next stop announcements and route diversions. The benefit per journey to existing bus users from the provision of audio and visual announcements has been approximated using data on the generalised journey time savings of soft bus interventions taken from DfT Transport Appraisal Guidance (TAG) (Unit M 3.2.1). Generalised journey time is a measure of the total cost of a journey, including fares, journey time, and other factors such as comfort and convenience, expressed in the unit of journey time minutes. Introduction of a quality measure does not represent a time saving as such, but will increase the attractiveness of buses and can therefore be modelled as a reduction in generalised time.

109. Different GJT savings have been used for general bus users and older bus users, to reflect the fact that the benefit of audio visual information will be different for these groups. The study on which the TAG GJT savings are based is from 2009 and likely predates significant technological advancements, such as the prevalence of smartphones, which may mean user benefits of AV technology are now lower. To account for this, the TAG values for general users have been halved and taken as the high scenario, whereas the TAG values have been taken as the high scenario for disabled passengers, to account for the fact that the benefit to them will be higher. Sensitivity analysis has been conducted on these values in section 2.11.

110. The user benefits of improved journey quality have then been monetised using the forecast values of time per person from TAG (Unit A1.3.2) and multiplied by the increase in passenger journeys that will be made on buses that now have audio-visual announcements as a result of the policy, against the do-nothing scenario.

111. To give an indication of the expected scale of user benefits, the generalised journey time of an average bus journey is estimated at 48.8 minutes<sup>34</sup>, which monetised is approximately £6.27. In the core central scenario presented in this analysis, audio-visual interventions on buses are expected to reduce this generalised journey time by approximately 1.17 minutes for general bus users, and 2.34 minutes for older and disabled users. This equates to a reduction in

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<sup>34</sup> Average bus trip length (36 mins) Source: National Transport Survey NTS0303, 2018/19)

+ Average bus fare converted into generalised minutes using TAG A1.3.2 (12.18 mins) Source: approximated by BUS0402a.

generalised journey time of approximately 2% and 5%, and a monetary user benefit of £0.15 and £0.30 for general bus users and elderly and disabled bus users, respectively.

### 2.6.2.2 Benefits to new bus users

112. A lack of accessible transport has a significant negative impact for disabled people. It impacts social participation, wellbeing, social inclusion, access to opportunities (including employment and education), community participation, loneliness, and an individual's travel sphere. A policy which mandates the provision of audio and visual announcements on local services will therefore hugely improve disabled people's quality of life and wellbeing by giving them increased independence and confidence, as well as equal access to transport and therefore opportunities as non-disabled passengers. Therefore, there will be benefits to new users who wouldn't have otherwise felt confident or able to travel, such as those with a visual or hearing impairment who will decide to make local service journeys as a result of the policy.

113. In order to monetise the social impact of bus travel for these new users, the following methodology was used, as recommended in TAG A1.3<sup>35</sup>;

- Step 1 – Estimate the change in the number of bus trips caused by the intervention being appraised.
- Step 2 – Estimate what proportion of these would not take place if bus was not available.
- Step 3 – Apply the recommended values per trip to this proportion.
- Step 4 – Calculating the benefits over the appraisal period.

114. To determine the change in demand for bus journeys as a result of the policy, the average bus fare was converted into GJT minutes using guidance from TAG Unit A1.3.2, and a GJT elasticity of -1.1<sup>36</sup> was used to calculate the increase in patronage as a result of audio-visual announcements.

115. To isolate the new journeys that are made by passengers who would otherwise not travel without the intervention, guidance from TAG (Units A3.16 and A3.17) was used to approximate the proportion of bus journeys made by passengers that "would not go" if the bus were not available. A sensitivity test of 21% applied to all segments has been conducted as recommended in TAG, please see analytical annex for further details. The remainder of the increase in patronage is assumed to be attributed to modal shift however, these have not been monetised due to a lack of data on the monetary benefit applied to their bus trips. The benefits assessed are therefore expected to be an underestimate of the total benefits.

116. To estimate the monetary benefit to new passengers who otherwise would not travel, the value of social impact per return bus trip (TAG Unit A3.18) has been multiplied by half the number of additional journeys identified to be made by passengers who would not go without the intervention, and multiplied by a half in line with the 'rule of a half' methodology as explained in TAG (Unit A1.3)<sup>37</sup>.

### 2.6.3 Benefits to wider society

117. Transport use can have negative impacts on wider society through things such as congestion, air pollution, and road accidents. Although this policy could increase the number of buses and coaches in operation, this will be offset by a decrease in car use, as some new local service passengers will be attributed to modal shift away from private car use, which will result in a reduction in congestion and noise. The net impact of the policy on wider society is expected to

<sup>35</sup> Appendix B [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1007443/tag-unit-A1.3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007443/tag-unit-A1.3.pdf)

<sup>36</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/719278/bus-fare-journey-time-elasticities.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf)

<sup>37</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf)

be a benefit of between £20m and £281m across options 2 and 3. The variation between these values can be largely explained by the number of buses are assumed to have AV technology without the policy and the distance travelled on buses in the do nothing scenario, the growth rates for which have been varied by +/- 50%.

118. The benefits to wider society which come about from a modal shift from cars to local coach services have not been monetised due to high levels of uncertainty and a lack of existing evidence.

## 2.7 Unmonetised benefits

### 2.7.1 Benefits to operators from using the AV screens for advertising

119. It is expected that some operators may decide to run adverts on their AV screens and thus will receive revenue from doing so. This is based on information from the charity Guide Dogs that some operators have been using advertising revenues to offset the costs of installing AV technology. Advertising benefits are therefore treated as an indirect benefit to businesses of this policy.

120. The question asked in the consultation was: *'Do you agree with our analysis of the costs and benefits of the preferred option, as indicated in the consultation-stage Impact Assessment? Please explain your response.'*

*We are aware of at least one operator which has subsidised the ongoing costs of providing audible and visible information by using visible information displays to show advertisements.*<sup>38</sup>

These benefits are not expected to be large due to lower expected effectiveness against alternative methods of advertisements, such as on the outside of vehicles or on mobile phones. These benefits have subsequently not been monetised due to proportionality and a lack of reliable evidence.

### 2.7.2 Stimulated growth in market for AV technology

121. One benefit of a policy which mandates audible and visible information is that there may be stimulated growth in the market for AV, which will reduce the cost of associated products for operators. This will be a benefit to operators in that they may be able to purchase equipment at a lower cost, but there will also be a benefit to AV suppliers of increased profits due to increased demand for the technology. These benefits have not been monetised due to a lack of evidence.

## 2.8 Impacts for policy options 2 and 3

122. Detailed analysis has been carried out for policy options 2 and 3, the impacts of which differ based on the different implementation timelines.
123. Our assessment of the impacts of audio and visual announcements is presented in three (High, Low and Central) scenarios. The central scenario represents our best estimates of the impacts of the policy. The high and low scenarios reflect the inherent uncertainty of the effects of the policy, predominantly caused by the impacts of Covid-19 and its effect on operator behaviour, which may mean that future trends, especially around AV technology uptake, will be different to our forecasts. All impacts stated below are impacts which are additional to policy option 0 of doing nothing. All impacts have been assessed over a 10 year period starting from 2023, and all figures are displayed in 2019 prices and are discounted to 2023 NPV, unless otherwise stated.

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<sup>38</sup> Bus Services Act 2017: accessible information, Section 14, AIR 18  
<https://www.gov.uk/government/consultations/bus-services-act-2017-accessible-information/bus-services-act-2017-accessible-information-html#impact-assessment>

**Option 2 - Accessible Information Requirement affecting all local services, with two tiered delayed requirement depending on the age of vehicle.**

*Table 1: Estimated impacts of policy option 2: (2023-2032)*

<b>Impacts, £, discounted, 2019 prices</b>	<b>Low</b>	<b>Central</b>	<b>High</b>
<b>Impacts on operators</b>			
Familiarisation costs	£13,987	£27,974	£55,948
Equipment and installation costs	£7,251,070	£21,372,131	£72,343,107
Upskilling costs	£103,429	£206,858	£310,288
Back office costs	£7,703,342	£19,258,355	£30,813,367
Increased profits as a result of increased demand	£752,657	£8,050,994	£36,856,048
<b>Net impact</b>	<b>-£14,319,171</b>	<b>-£32,814,323</b>	<b>-£66,666,662</b>
<b>Impacts on bus users</b>			
Benefits to bus users	£182,118,572	£889,389,348	£2,639,940,193
<b>Net impact</b>	<b>£182,118,572</b>	<b>£889,389,348</b>	<b>£2,639,940,193</b>
<b>Impacts on government</b>			
Cost of grant subsidy	£3,153,254	£4,144,277	£4,144,277
Indirect taxation disbenefit	£1,858,195	£8,574,462	£24,299,629
<b>Net impact</b>	<b>-£5,011,449</b>	<b>-£12,718,738</b>	<b>-£28,443,906</b>
<b>Impacts on wider society</b>			
Congestion benefits	£37,853,089	£39,473,070	£119,083,107
Infrastructure benefits	£54,131	£265,424	£790,064
Accident benefits	£1,049,198	£5,154,733	£15,365,270
Local air quality benefits	£280,108	£1,332,083	£3,878,827
Noise benefits	£7,398,067	£36,348,805	£108,353,497
Greenhouse gases benefits	£1,502,756	£7,167,742	£20,885,251
<b>Net impact</b>	<b>£48,137,349</b>	<b>£89,741,856</b>	<b>£268,356,017</b>
<b>2023 Net Present Value, discounted, 2019 prices</b>	<b>£210,925,301</b>	<b>£933,598,142</b>	<b>£2,813,185,642</b>

**Option 3 (Preferred Option) - Accessible Information Requirement affecting all local services, with three tiered delayed requirement depending on the age of vehicle.**

*Table 2: Estimated impacts of policy option 3 (preferred option): (2023-2032)*

<b>Impacts, £, discounted, 2019 prices</b>	<b>Low</b>	<b>Central</b>	<b>High</b>
<b>Impacts on operators</b>			
Familiarisation costs	£13,987	£27,974	£55,948
Equipment and installation costs	£4,507,732	£15,134,698	£61,327,341
Upskilling costs	£103,429	£206,858	£310,288
Back office costs	£7,703,342	£19,258,355	£30,813,367
Increased profits as a result of increased demand	£829,699	£8,583,218	£38,709,937

Net impact	-£11,498,792	-£26,044,668	-£53,797,007
<b>Impacts on bus users</b>			
Benefits to bus users	£198,562,067	£944,543,195	£2,766,230,437
Net impact	£198,562,067	£944,543,195	£2,766,230,437
<b>Impacts on government</b>			
Cost of grant subsidy	£3,153,254	£4,144,277	£4,144,277
Indirect taxation disbenefit	£2,050,667	£9,220,035	£25,777,839
Net impact	-£5,203,921	-£13,364,312	-£29,922,116
<b>Impacts on wider society</b>			
Congestion benefits	£8,589,350	£40,716,430	£124,295,032
Infrastructure benefits	£58,914	£281,464	£826,794
Accident benefits	£1,141,314	£5,463,705	£16,072,750
Local air quality benefits	£307,374	£1,423,535	£4,088,233
Noise benefits	£8,047,484	£38,527,049	£113,341,214
Greenhouse gases benefits	£1,647,660	£7,653,771	£21,998,145
Net impact	£19,792,096	£94,065,955	£280,622,170
<b>2023 Net Present Value, discounted, 2019 prices</b>	<b>£201,651,450</b>	<b>£999,200,170</b>	<b>£2,963,133,484</b>

## 2.9 Summary

### *Monetised costs:*

- Familiarisation cost to operators (direct)
- Equipment and installation cost for bus operators (direct)
- Back office cost for bus operators (direct)
- Driver upskilling costs to operators (direct)
- Cost to bus passengers of higher fares (indirect)
- Cost to government of loss of indirect tax revenue (indirect)
- Cost to government of grant subsidy to small operators (direct)

### *Unmonetised costs:*

- Enforcement costs to traffic commissioners (direct)
- Cost to government of increased concessionary travel reimbursements (indirect)

### *Monetised benefits*

- Increased profits for bus operators as a result of increased patronage (indirect)
- Improved journey quality for existing bus users (direct)
- Access to bus services for disabled passengers (direct)
- Benefits to wider society associated with modal shift away from private car use (indirect)

## Unmonetised benefits

- Benefits to operators from using the AV screens for advertising (indirect)
- Stimulated growth in market for AV technology (indirect)

124. A summary of best estimate impacts for options 2 and 3 is given below:

Table 3: Summary of impacts of options 2 and 3 (2023-2032)

Impacts, £, discounted, 2019 prices	Option 2	Option 3
<b>Impacts on operators</b>		
Familiarisation costs	£27,974	£27,974
Equipment and installation costs	£21,372,131	£15,134,698
Upskilling costs	£206,858	£206,858
Back office costs	£19,258,355	£19,258,355
Increased profits as a result of increased demand	£8,050,994	£8,583,218
Net impact	-£32,814,323	-£26,044,668
<b>Impacts on bus users</b>		
Benefits to bus users	£889,389,348	£944,543,195
Net impact	£889,389,348	£944,543,195
<b>Impacts on government</b>		
Cost of grant subsidy	£4,144,277	£4,144,277
Indirect taxation disbenefit	£8,574,462	£9,220,035
Net impact	-£12,718,738	-£13,364,312
<b>Impacts on wider society</b>		
Congestion benefits	£39,473,070	£40,716,430
Infrastructure benefits	£265,424	£281,464
Accident benefits	£5,154,733	£5,463,705
Local air quality benefits	£1,332,083	£1,423,535
Noise benefits	£36,348,805	£38,527,049
Greenhouse gases benefits	£7,167,742	£7,653,771
Net impact	£89,741,856	£94,065,955
<b>2023 Net Present Value, discounted, 2019 prices</b>	<b>£933,598,142</b>	<b>£999,200,170</b>

125. This table shows that the cost to bus operators in the central scenario is slightly lower in policy option 3 and the overall net present value is higher. The preferred option is option 3, as it balances the need to make swift progress on the provision of audible and visible information consistently across the Great Britain local service network, with realistic timescales for operators.

## 2.10 Business Impact Target Calculations

126. Indirect impacts to business are included in the NPSV, but are excluded from the Business Impact Target and Equivalent Annual Net Direct Cost to Business (EANDCB).

127. The direct costs and benefits to business therefore deemed to be in scope of the Business Impact Target and EANDCB are as follows:

- Familiarisation costs to operators (direct transition cost)
- AV equipment and installation costs to operators (direct transition cost)

- Driver upskilling costs to operators (direct transition cost)
- Back office costs to operators (direct ongoing cost)

128. Including only the direct impacts to business, the preferred option has a 2020 Business Net Present Value of -£23.5m, in 2019 prices. The EANDCB has been calculated to be £3.6m.<sup>39</sup>

## 2.11 Sensitivity Analysis

129. Sensitivity analysis has been conducted on the value of the reduction in generalised journey time that results from audio and visual interventions on buses. The segmented values of soft bus interventions given in TAG (Table M3.2.1, found in the Analytical Annex) could be deemed to be an overestimate of the benefit of the technology today, therefore the values used in the core case are lower than those suggested in TAG.

### *Core scenario - values used in the analysis*

130. In the core case presented in this analysis, the GJT values used for calculation of the benefits are presented below. This scenario results in a best estimate 2023 NPV of £933.6m for option 2 and £999.2m for option 3.

Type of user	Further Information	GJT savings (minutes)		
		Low	Central	High
General bus users	Used to calculate the benefit of improved journey quality to existing general bus passengers. 50% of the TAG value for bus users has been taken as the high scenario, with the low scenario being 50% of this and the central as the midpoint.	0.78	1.17	1.56
Elderly and disabled bus users	Used to calculate the benefit of improved journey quality to existing elderly and disabled bus passengers. Assumed to be higher than the benefit to general bus users. TAG value for bus users has been taken as the high scenario, with the low scenario being 50% of this and the central as the midpoint.	1.56	2.34	3.12
Overall users (bus and car)	Used with journey time elasticity of demand to calculate an increase in patronage. 50% of the TAG value for overall users has been taken as the high scenario, with the low scenario being 50% of this and the central as the midpoint.	0.63	0.94	1.26

### *Low scenario – GJT savings are 50% of core values*

131. If the above GJT values were halved and used for calculation of the benefits, this scenario results in a best estimate 2023 NPV of £99.0m for option 2 and £96.8m for option 3. Therefore, in the lowest scenario, the net present value of the policy is still expected to be positive.

Type of user	GJT savings (minutes)		
	Low	Central	High
General bus users	0.39	0.59	

<sup>39</sup> The EANDCB has been calculated in line with the guidance in section 1.9.32 of the [Better Regulation Framework Manual](#) (p46).



			0.78
Elderly and disabled bus users	0.78	1.17	1.56
Overall users (bus and car)	0.31	0.47	0.63

*High scenario – GJT savings used are TAG values*

132. If the values given in TAG were used for calculation of the benefits, this scenario results in a best estimate 2023 NPV of £2925.1m for option 2 and £3068.0m for option 3.

Type of user	GJT savings (minutes)		
	Low	Central	High
General bus users	1.56	2.34	3.12
Elderly and disabled bus users	1.56	2.34	3.12
Overall users (bus and car)	1.26	1.88	2.51

### 3.0 Risks and unintended consequences

133. We intend to require minimum standards for what the audible and visible information will announce, (such as announcements on the name/number of the service, the route and/or direction, the next stop etc) to provide consistency of services across Great Britain. This will enable operators to understand the requirements, for passengers to identify when a service is not meeting the requirements, and for a Traffic Commissioner to assess the compliance of information provided on a service.

134. We also intend to require minimum standards for the provision of the audible and visible information. This will be a combination of (i) an outcome-based approach based on a proportion of passengers having access to the information whilst seated on the vehicle, and (ii) minimum standards for the noise level and text size. We acknowledge that the outcome based approach may present some difficulties in determining the suitability of whether the information can be accessed from a proportion of seats on the vehicle, but we expect that the minimum standards for noise level and text size will mitigate this.

135. A Traffic Commissioner will be required to possess an audible reader to measure the audible information, however sources suggest that this would be at a minimal cost. We also intend to set parameters for when each set of required information is provided on the service. This will be an outcome-based approach (e.g. next stop information to be provided after the previous stop, before the upcoming stop, and in sufficient time to enable a passenger accessing the information to alight the vehicle at the upcoming stop). We anticipate that this may present some difficulties in determining whether the information has been provided in time for a passenger to react to the information, especially given that some disabled people may need more time to react to the information. However, the parameters for the provision of the information will have defined start and end points, which we expect to be easy to identify and enforce.

136. With increased fixed costs for operators as a result of this policy, there is a risk that some routes may become commercially unviable and operators may be forced to reduce services. It is expected that this risk will be higher for smaller operators, whereby the costs may be disproportionately burdensome, and for operators running marginal routes that may not be as profitable. We plan to explicitly mitigate this risk through the provision of the Accessible Information Grant, which will reduce the negative impact on smaller operators by funding the cost of AV equipment and installation and making it unlikely for them to have to reduce services. There is a risk of localised impacts whereby some operators who fall out of scope of grant funding may have to withdraw services due to increased costs. However, a large majority of small operators fall under the threshold at which eligibility for funding is expected to be set,<sup>40</sup> therefore the risk of loss of services is expected to be slight. It is also hoped that the technology neutral approach of the policy, staggered deadlines for implementation, and consequent development of cheaper approaches for providing accessible information would also mitigate this risk.
137. The benefits of this policy depend on changes to patronage as a result of improved information on local services. If passenger demand is less responsive to changes in journey quality than we have assumed, the benefits of the policy in terms of an increase in consumer surplus and operators' profits may be significantly lower. However, the majority of the benefits to consumers identified can be attributed to the journey quality improvements on *existing* journeys, rather than on new journeys. Therefore, we still anticipate there to be significant benefits to consumers even if patronage does not increase as expected.
138. There is a potential that these Regulations will lead to greater patronage levels than expected, and local services will be overcrowded as a result. This would potentially impact people's access to the audible information as busier environments tend to be louder. A significant increase in demand may also prevent passengers from accessing the visible information due to standing passengers. However, given the frequency and capacity of most local services, we anticipate that overcrowding will have only a slight cost at worst.
139. The long-term impact of Covid-19 on transport is not yet fully known. Therefore, there is a risk that people's travel behaviour has changed to an extent that the benefits of these Regulations will not be realised, due to sustained low patronage levels. However, uncertainty as a result of Covid-19 may also lead to an increase in patronage, due to modal shift as a result of different journey purposes. Therefore, there's a possibility that these Regulations may be introduced at an opportune time, as an incentive for non-users to access local services.
140. To support this policy, in 2018 we launched [a public consultation](#) on introducing the Accessible Information Regulations. This included an Impact Assessment of the proposals, and asked respondents whether they agreed with the analysis. 60% of respondents either did not know, or did not give a response. This was reflected in the comments, many of which cited uncertainty surrounding evidence and the confusing nature of the Impact Assessment. Over a fifth of respondents agreed with the cost and benefit analysis of the preferred option, and just under a fifth disagreed. Those respondents who disagreed with the analysis cited the underestimation of cost and over estimation of the positive effects of advertisement and increased passengers. Therefore, whilst there is a risk that the costs and benefits in this Impact Assessment may not be accurate to the real-world impact of the Regulations, we have used multiple sources – including those attained through the bus, coach, and AV markets – to mitigate this risk.
141. We have not identified any potential demand-side behavioural responses from this change in Regulations.

## 4.0 Wider impacts

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<sup>40</sup> It is expected that all operators with 20 or less public service vehicles will be eligible for the grant, which would cover approximately 335 operators (based on PSV survey data 2020/21). There are only an additional 38 operators with between 20 and 30 vehicles who could be considered small operators but would fall out of scope of funding.

#### *4.1 Innovation Test*

142. Due to the policy not mandating that operators install a specific type, or types, of AV equipment, operators are free to choose the appropriate solution that works for them. We anticipate that this policy will increase demand for AV equipment in the short to medium term before operators must comply with the proposed Regulations. This may stimulate growth in the AV equipment market and encourage new entrants to the market. Therefore, AV suppliers will likely have to innovate in the future to compete with other suppliers, and this would have a positive impact on businesses in terms of reduced costs and increased profits. If future innovation in the market for AV technology is lower than expected, we do not expect the costs of the equipment to rise but to remain the same as current estimates, which still results in an overall positive NPSV of the proposed policy.

#### *4.2 Small and Micro Business Assessment*

143. Small and micro-businesses are defined in the better regulation framework guidance as those employing between 10 and 49, and 1 and 9 FTE employees, respectively. The BEIS Business Population Estimates suggest that there are 5,815 micro-businesses and 1,565 small-businesses within the 'other passenger land transport' sector. These account for 75.4% and 20.3% of the sector respectively. It should be noted that these figures include buses, coaches as well as taxis.

144. The intention of this regulation is to make the provision of audio-visual information reliably available across England, Scotland, and Wales. A complete exemption for small and micro businesses would not achieve this goal. It would provide a particular barrier to disabled passengers, who would not be able to confidently use local services if there is inconsistent coverage of accessible information.

145. For the purposes of the analysis, small and micro businesses are assumed to be operators with 20 or less public service vehicles. A proportionate approach has been taken for local coach operators due to a lack of data – our engagement with the sector suggests that there are very few local coach operators who aren't also local bus operators and we estimate that local coach services only make up a very small proportion of the overall local service market.

146. There will be an increase in operating costs as a result of this policy, which may be disproportionately burdensome to smaller operators. We would expect familiarisation costs, equipment costs, upskilling costs, back office costs etc. to hit much harder for SMBs compared to larger operators. However, this policy explicitly mitigates the negative impacts on small and micro operators (here defined as operators with 20 or less public service vehicles) through the provision of the Accessible Information Grant, a government subsidy to small operators to cover the cost of AV equipment and installation, which will significantly reduce their direct costs. This grant subsidy will be set between £3.3m - £4.3m (2019 prices). Furthermore, the regulations are technology neutral and allow for small operators to use low cost solutions. This option therefore protects small and micro businesses from significant regulatory burdens whilst still providing a significant benefit for users.

#### *4.3 Equalities Impact Assessment*

147. An Equalities Impact Assessment has been undertaken and is provided separately to this document.

#### *4.4 Justice Impact Test*

148. A Justice Impact Test has been undertaken and is provided separately to this document.

#### *4.5 Trade Impact*

149. It is not expected that this policy will have any trade impacts.

#### 4.6 Family Test

150. In helping to give people the confidence to use local services, we believe that this intervention will enable people to connect, or reconnect, with their local communities, to engage economically and to participate in community-based social and leisure activities. As such, this policy has the potential to promote greater community cohesion.

#### 4.7 Health Impact Assessment

151. At present, people who rely on accessible information in order to access local services, whether due to disability or other reasons, may lack confidence in their ability to reach their destination safely, and so do not travel. This may in turn positively impact on their ability to access health, employment, economic and recreational activities, or to play their part in the local community. For those for whom the lack of information presents a significant barrier to access, such as some people with a visual impairment, the provision of such information may make the difference that allows them to look for work for the first time, to shop independently, to meet with friends and relatives without having to rely on others to get them there, to participate in sports and group activities, and to get to medical appointments with confidence.

152. As such, we believe the proposed intervention has the potential to promote health and wellbeing for those affected by it by helping to build their confidence to use local services and to remain active as a result. This in turn will support the government's Loneliness Strategy, which looks to tackle loneliness in England and make the country a place where everyone can have strong social relationships and support from others<sup>41</sup>.

153. Where people rely upon services exempt in whole or in part from the requirements, such as vehicles with fewer than 17 passengers or tour services, health and wellbeing outcomes may be reduced or not evident at all. However, it is unlikely that many people rely on tour services as their only means of transport, and the incidence of this effect is therefore expected to be negligible. For vehicles which can carry 17 or fewer passengers, we expect passengers to be able to communicate more easily with the driver – and vice versa – due to the smaller size of the vehicle, in order to identify essential route information.

154. It should be noted however that the absence of a health and wellbeing benefit is not the same as a dis-benefit, and we would not expect anybody to experience reduced health and wellbeing outcomes in absolute terms as a result of this policy.

#### 4.8 Human Rights Impact

155. It is not expected that this policy will have any impact on human rights.

#### 4.9 Rural Proofing

156. Whilst it is not entirely clear-cut, many smaller operators run services in rural and isolated communities, whilst larger operators tend to focus on urban centres and trunk routes. Therefore, the assumed risk to services operated by smaller companies could affect rural areas disproportionately.

157. Even where the sustainability of routes is not endangered, the proposed implementation approach, focusing initially on operators with newer vehicles, and providing operators with older vehicles with longer to comply, is likely to mean that the benefits of improved on-board information will likely be experienced by passengers in rural areas more slowly than they will in urban ones. Where people are currently inhibited from travelling, owing to a lack of onboard information, it is possible that this situation will be maintained, at least temporarily – potentially limiting access to employment, education, social and leisure activities.

158. There is a risk that operators of the most marginal of routes will struggle to justify the costs associated even with a relatively low-cost solution for providing audible and visible

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information, and that passengers may not benefit at all – potentially impacting on their ability to continue living in more isolated communities.

159. However, we intend for the Accessible Information Grant to help reduce the imbalance between rural and urban areas. The Grant is intended to support smaller operators with 20 or fewer vehicles by reducing the financial burden in complying with the Regulations. We also expect the Grant to provide an incentive for smaller operators to comply with the Regulations before the compliance date for their older vehicles. As many rural services are operated by smaller operators, we expect that this will reduce the implementation timescale imbalance between urban and rural areas.

#### *4.10 Sustainable Development*

160. It is not expected that this policy will have any impact on sustainable development.

#### *4.11 Competition Assessment*

161. We expect that this policy will not have a significant impact on competition between large operators as all will have to meet the requirements to provide audible and visible announcements and it will be up to them to determine the best way for them to comply. It is likely that operators with just over 20 vehicles – and therefore not eligible for the government's Accessible Information Grant funding - may suffer a fairly minor loss of competitiveness with respect to other slightly smaller operators, but we believe that this will be a small cost which will be more than outweighed by the benefits of not exposing small operators to disproportionate burdens.

#### *4.12 Greenhouse Gases Impact Test/Wider Environmental*

162. It is not expected that these proposals will have a positive effect on the emissions of greenhouse gases. While local service patronage may increase, it is unlikely that there will be a substantial increase in the total distance travelled by local services due to spare capacity. Any additional distance driven by local services will be offset to some extent by a decrease in the distance travelled by cars. Our analysis suggests that the net impact of greenhouse gas emissions in the preferred option will be a benefit of £1.6m-£22.0m (2023 NPV, 2019 prices) over 10 years.

163. If the policy proposals lead to a greater total distance travelled by local services, there may be some additional noise and air quality pollution. These impacts will be offset by a reduction in noise and air quality pollution by cars and the net impact is expected to be a net benefit of £19.8m-£280.6m (2023 NPV, 2019 prices) over 10 years.

164. Some sound may be emitted outside local service vehicles from on-board audible announcements, but these will not be significant and are unlikely to be audible beyond one or two metres from the entrance to a waiting vehicle.

## **5.0 Description of preferred option and implementation plan**

### **Core Requirement**

165. The Accessible Information Requirement will mandate the provision of prescribed information on-board local services in England, Scotland and Wales, with the aim of helping disabled passengers, and passengers more generally, to travel with confidence.

166. Operators of local services will be required to ensure that information identifying the number, name or other designator of the respective route, the direction of travel and/or the final stopping place at which the service will call on that route, the name of each upcoming stop, the points at which a service is diverted from its scheduled route, and the points at which a service is operating as a hail and ride route is provided both audibly and visibly. In this instance "audibly" is understood to include information provided in such a manner as to enable a person reliant on using an Audible Induction Loop in conjunction with a hearing aid to access the information.

167. Operators will not be able to meet the requirement by providing information in such a manner that a passenger would need to purchase, or have purchased, equipment other than personal medical aids (such as spectacles or a hearing aid) in order to access it. This stipulation is intended to prevent sole reliance on user-possessed smartphone applications for the delivery of information, on the basis that smartphone ownership amongst the target group of disabled people remains, and is expected to remain, low.

168. The Regulations will specify the points during a journey at which prescribed information should be provided. In particular, it will require information identifying the route and direction to be provided whilst the service is stopped at stopping places along the route, that information identifying each upcoming stopping place is provided between the previous stopping place and the stopping place being identified, and that the points at which diversions and hail and ride routes begin or end are identified as close to those points as possible. Where practicable, the points at which prescribed information should be provided will be identified in terms of the desired outcome – i.e. in sufficient time to allow a passenger to take action, such as to alight at a stopping place being identified.

169. The Regulations will also require that the audible and visible information provided by operators meets basic standards, such as a minimum character height for visible information, and a minimum measurement for the audible information. The aim of this is to ensure that information is usable by passengers whilst avoiding constraining operators in the methods they can use to provide required information.

170. It is anticipated that the audible information will need to be discernible to a person seated in a mobility-aid in any of the designated wheelchair spaces on-board the vehicle. Additionally, it is anticipated that a person solely using a hearing aid in conjunction with an Audible Induction Loop would be able to access the information from any of the designated priority seats and wheelchair spaces. It is recognised that the latter requirement potentially detracts from our intention to require the provision of information in a technology neutral way, so as to allow operators flexibility in their fulfilment of the new duty. However, this felt necessary in the circumstances in order to ensure that people who are deaf or hard of hearing, and who rely upon the use of induction loops in order to filter out extraneous and irrelevant sounds, are not excluded from the benefits of the audible and visible information. This may be particularly important for people with dual sensory impairments who may have no other means of accessing information.

## **Permanent Exemptions**

171. We are conscious that, in order to be capable of being implemented by the industry across Great Britain, within a relatively short timeframe, the Regulations should be applied in a proportionate manner, conscious of the circumstances in which it might be unreasonably difficult, inappropriate, or expensive to provide prescribed information. For this reason, we intend to exclude from the requirement altogether:

- Services provided using vehicles designed to carry fewer than seventeen passengers
- Tour services, which may be defined as “local services” in certain circumstances, such as when operating under London Service Permits in London;
- Any vehicle first used on or before 1st January 1973; and
- Services which are primarily long distance, but which have an element of their route registered as a local service.
- “Closed door” home-to-school services, which are not open to the public.

172. Whilst it is not our intention to exempt significant sections of the sector for longer than is required to enable them to comply with the new requirements, it is felt that the application of the

requirements to the above services would be disproportionate, and would not support the stated policy aims.

173. The exemption of services provided using vehicles designed to carry fewer than seventeen passengers is intended to reflect the nature of services provided by smaller vehicles. This exemption will not affect a large proportion of services. Minibuses (vehicles with capacity for 22 or less passengers including standing) make up only 3% of vehicles owned by local operators.<sup>42</sup> Often, the nature of the vehicles providing such services, means that passengers must interact with drivers more than they would in larger vehicles, and that the operators will likely provide a more personal service overall. Further, such vehicles are often used for the most remote services, such as those serving isolated communities on Scottish islands or in rural Wales, where the risk of the application of requirements resulting in the discontinuation of a service would be too great. In exempting such services, it is recognised that the impact of using the wrong service or alighting at the wrong stopping place in such circumstances is likely to be significantly higher in the locations served. However, it is also felt that the risk of this eventuality occurring is likely to be significantly lower than for services provided using larger vehicles.
174. In most areas of Great Britain, services which would generally be recognised as providing a tour, namely a service conveying passengers from one or more locations to a single destination and back again, would not fall under the Transport Act 1985 definition of local services, and would therefore not be required to provide prescribed information. In certain circumstances however, such services are operated under local permit schemes and are defined as “local services” as a result. This is true in the case of services operating under London Service Permits, including city sightseeing services. In applying the requirements consistently across Great Britain, wherever possible, we do not feel it necessary or proportionate to require the operators of such services to provide prescribed information. In many circumstances they would in any case be providing a more personal service than on normal local services, including the provision of information in a variety of formats.
175. We intend to exempt vehicles of particular historical interest from the requirement to provide prescribed information both audibly and visibly. We recognise that such services, including those provided using historic Routemaster buses, are of value principally on account of the authenticity of their structure and fittings, and that requiring the provision of the required information, which in most circumstances would involve the use of a screen and speakers of some kind, could detract from that value. However, the intention of these Regulations remain focussed on providing onboard information to disabled people consistently. Therefore, we intend to exempt vehicles which were first used on or before 1 January 1973. This will be over 50 years from the date which the Regulations will commence from, which we believe is an appropriate cut-off point to balance the aesthetics of historical vehicles with the provision of accessible information.
176. Some long-distance services, primarily operated by coaches, have elements of their route which fall under the definition of a local service due to two or more stops being at most 15 miles apart (as per the Transport Act 1985 definition of a local service). We intend to exempt these services, as the intention of the Regulations are to cover local services which frequently transport passengers along a route with frequent designated stopping places. Long distance services often travel for long periods without a stopping place, and are often regarded by passengers as a separate form of transportation to a local service. This exemption will be based on a criteria which provides eligibility for long-distance services without the risk of existing local services being registered as long distance in order to avoid complying with the Regulations.
177. There are many “closed door” home-to-school services that members of the public cannot board. We intend to exempt these services, as including them does not seem proportionate or necessary for the aims of the policy. They are typically served by the same driver each day and used by a consistent group of passengers associated with an educational establishment. This means that passengers can communicate their needs to a driver and reasonably expect a consistent level of service day-to-day. While the provision of audible and visible information

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<sup>42</sup> Table Bus0601, DfT Annual Bus Statistics 2017

might benefit some disabled passengers, it is unlikely that it would have a high impact. We believe these benefits would be minimal compared to costs to the operators of these services. This exemption will be defined consistently with the definition of “closed door” home-to-school used in the recent Public Service Vehicles (Accessibility) Regulations 2000 Medium-Term Exemptions.

178. In addition to these permanent exemptions, the Secretary of State has powers to exempt specific services, vehicles, or operators from the requirement without the need to amend Secondary Legislation. This is intended for the making of ad hoc exemptions, such as where the particular circumstance of an individual service means that it would be inappropriate to require the provision of prescribed information. However, we do not intend to use that power at this time.

## Implementation Approach

179. It is intended that the general exemption powers will be used to stagger the application of the requirement to services depending upon the age of the vehicles used. The intention in doing this is to maximise the longevity of the provision of audible and visible information for newer vehicles, whilst giving operators the choice to retro-fit older vehicles or to purchase a new vehicle once it has reached the end of its expected lifespan. We originally proposed two implementation bands dependent on the size of the operator. However, we expect that the Accessible Information Grant will supplement the cost of installing equipment in order to comply with the provision of information for smaller operators, i.e. those with 20 or fewer vehicles. Therefore, we expect operators of any size to comply with the implementation timescales. This will benefit passengers overall, as those who use services which are operated by a small operator will not be at a disadvantage.

180. It is intended that services will be within scope as follows:

- All vehicles first used on or after 6 April 2019 must comply by 6 April 2024 (1 year after commencement).
- All vehicles first used between 6 April 2014 and 5 April 2019 must comply by 6 April 2025 (2 years after commencement).
- All vehicles first used on or before 5 April 2014 must comply by 6 April 2026 (3 years after commencement).

181. This approach is predicated on several understandings, namely:

- That the upfront cost of providing audible and visible information on-board new or nearly new vehicles is significantly lower as a proportion of the overall value of that vehicle than for older vehicles, and on this basis is more reasonably justified.
- That the slightly increased application period would give operators who rely on purchasing older vehicles on account of their lower market value, time to plan for the application, including spreading any upfront costs across a longer period, and building ongoing costs into their business model and related decisions.
- That the average lifespan of a bus is approximately seventeen years, and that it would not be economically viable to invest in systems for providing audible and visible information on vehicles within four years of that age being reached.
- That it is unreasonable to exempt vehicles from the requirements in perpetuity after they pass the age at which a vehicle would, on average, be retired. This is on the basis that a minority of operators may continue to use such vehicles for considerably longer, lengthening the period that passengers must wait to benefit from improved accessible on-board information.

182. We intend to provide a time limited exemption from the technical requirements for vehicles with existing AV which fits within a set criteria. These vehicles will be subject to the requirements to provide the Required Information (e.g. the route and direction, next stop, and



diversion information) from the date that the Regulations commence. This is intended to reduce the need in unnecessary retrofitting of vehicles which have AV which doesn't fit exactly with the audible and visible requirements (such as text height for the visible information) but which still has capacity to provide information in sufficient formats for passengers.

183. As such, it is felt that the proposed approach strikes the right balance between prompting the market to significantly increase the provision of audible and visible information within a relatively short period of time, and mitigating the negative effects of imposing related costs on industry where this is likely to be detrimental to the sustainability of services.

### **Devolved administrations**

184. We propose to apply the requirement in the same manner, and to the same timetable in England, Scotland and Wales, on the basis that the concerns of stakeholders in Scotland and Wales, expressed in via the consultation, have informed the policy for the whole of Great Britain and do not therefore require specific provision.
185. It is understood that the requirement will not need to make specific provision for use of the Welsh language on services operating in Wales, on the basis that existing and planned legal provision would continue to apply regardless.

### **Enforcement**

186. Responsibility for ultimate enforcement of the Accessible Information Regulations rests with the Traffic Commissioner, who has been given powers by the Bus Services Act 2017 to enforce the requirement and apply sanctions where appropriate, consistent with its other functions. In practice, this means that the Traffic Commissioner will be able to investigate alleged incidents of non-compliance and to apply licensing sanctions, including the attachment of conditions to operator licenses, or the suspension or revocation of those licenses.
187. Operators will have a right of appeal to the Upper Tribunal.
188. The details of the process to be followed for reporting alleged incidents of non-compliance will be provided in Guidance, however it is anticipated the following stages will be included:
- i. Complaints are reported to an appropriate body, such as Bus Users UK or Transport Focus, for arbitration. In some instances complaints may be referred to the Bus Appeals Body.
  - ii. Complaints that remain unresolved or those alleging systematic non-compliance by individual or multiple operators are escalated to the Office of the Traffic Commissioner, which is expected to take a proportionate approach to applying sanctions for operators found to be in contravention of the Regulations, targeting systematic non-compliance rather than individual and temporary breaches.
  - iii. Operators found to have failed to comply may appeal to the Upper Tribunal.
189. We are conscious of the need to ensure that the process for reporting apparent non-compliance is as straightforward and user-friendly as possible, and will work with the bodies concerned, and potential users, in order to achieve this.
190. Whilst the Traffic Commissioner is independent of government, our intention is that enforcement of the Regulations should not penalise operators whose facilities for providing audible and visible information become unavailable temporarily, but should focus on systematic and long-term non-compliance. The presence of facilities and/or driver training used to facilitate the provision of required information might be used to evidence an intention to provide required information in lieu of that information being provided, at least for short periods of time. We will discuss with the Traffic Commissioners the enforcement of the Regulations as appropriate.

### **Guidance**

191. The Secretary of State has a duty to publish guidance to accompany the new requirement, and to review that guidance at intervals not exceeding five years. When issuing new or revised guidance the Secretary of State must consult Scottish and Welsh Ministers, Transport Focus, organisations representing disabled people and organisations representing operators.
192. Whilst the Accessible Information Regulations are intended to impose a technology neutral, information-based requirement on operators, the guidance will be used to encourage operators to implement the requirement in a manner which is both cost effective and meets the needs of disabled and other passengers. This may include options for meeting requirements relating to the timing and standard of information.
193. We will work with stakeholders in order to ensure that the guidance supports operators and results in information provided in a manner and to a standard which enhances the travelling experience for passengers.

## Communications

194. Following the Commencement of the proposed Regulations we will begin a process of engagement and communications activity, supporting operators to understand their duties, encouraging technology developers to develop solutions compliant with the Regulations, and informing passengers of the expected improvement in on-board information and how they can help to identify non-compliance.
195. In addition to the guidance indicated above, we will consider what other channels might be used to disseminate messages regarding the Accessible Information Regulations.

## Implementation and Review

196. The proposed Accessible Information Requirement will be introduced using powers at Section 181 of the Equality Act 2010, as amended by Section 17 of the Bus Services Act 2017, to lay a Statutory Instrument subject to the Affirmative procedure, and requiring debate in both Houses of Parliament.
197. The proposed Regulation will include a review clause, requiring review initially after five years (in order to allow its undertaking in parallel with that for the guidance), and at ten year intervals thereafter. The intention of maintaining an ongoing review requirement is to ensure that the Regulations continue to reflect the nature of technology for providing audible and visible information and do not prevent innovation in the associated market.

## 6.0 Post implementation review

1. **Review status:** Please classify with an 'x' and provide any explanations below.

<input type="checkbox"/>	Sunset clause	<input type="checkbox"/>	Other review clause	<input type="checkbox"/>	Political commitment	<input checked="" type="checkbox"/>	Other reason	<input type="checkbox"/>	No plan to review
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Regulations to be reviewed every after five years to ensure continued suitability.

2. **Expected review date**

0	4	/	2	7	Four years from when the Regulations come into force
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### 3. Rationale for PIR approach:

We have set the expected first review date as April 2027, four years following the expected Commencement date, in order to coincide with the Section 181(c) of the Equality Act 2010, which requires that the review of the guidance for the proposed Accessible Information Regulations must not exceed intervals of more than five years. This will allow the proposed Regulations to be in place for sufficient time to understand its impact, whilst making good use of resource by combining the review of the proposed Regulations and the guidance.

#### **Will the level of evidence and resourcing be low, medium or high? (See Guidance for Conducting PIRs)**

Low – EANDCB is less than £5m

#### **• What forms of monitoring data will be collected?**

We intend to collect:

1. Quantitative data on the number of vehicles which have complied with the proposed Regulations.
2. Quantitative data on bus patronage.
3. Quantitative data on the number of local services in operation.
4. Quantitative data on the number of vehicles which haven't complied with the proposed Regulations, as identified by the enforcement process.
5. Qualitative data from operators and industry specialists to identify trends on the impact of the Regulations on the industry.
6. Qualitative data from disabled people and disabled people's organisations on the impact of the Regulations upon their travel patterns and experiences.

We will use existing Departmental statistics from the annual survey of local operators for points 1-3. In particular, this is most likely to be the following ongoing annual statistics:

- BUS0610: Percentage of buses used as Public Service Vehicles with Audio Visual information by metropolitan area status and country: Great Britain
- BUS0103: Passenger journeys on local bus services by metropolitan area status and country: Great Britain
- BUS06: Vehicles operated by local bus operators

This significantly reduces the resource required for the PIR as these figures are regularly collated. This will also provide trend data to understand the impact of the policy.

#### **• What evaluation approaches will be used? (e.g. impact, process, economic)**

We propose a mixed approach to evaluation, covering both the process and the impact. The process evaluation will intend to answer the following research questions:

- How many, and what proportion, of vehicles have complied with the proposed Regulations?
- Where vehicles have not complied with the proposed Regulations, why have they not?
- What successes and challenges do operators experience when implementing the proposed Regulations?

The impact evaluation will intend to answer the following research questions:

- What impact does the implementation of the proposed Regulations have on patronage, audio-visual equipment data, and user feedback? In particular, what is the impact on disabled people and bus operators?
- Are there any unintended impacts related to the implementation of the proposed Regulations?

The monitoring data detailed above will be used to identify trends in compliance, patronage, and passenger experience. As this data is already regularly collected, baseline data from before the Regulations are implemented is readily available.

- **How will stakeholder views be collected? (e.g. feedback mechanisms, consultations, research)**

It is expected that, should an existing feedback mechanism not be suitable, a bespoke survey will be conducted with operators to understand their experiences of implementing the Regulations, what has worked well, the challenges they've experienced, and the context in which the implementation has taken place.

The views of end users are expected to be gathered through focus groups and/or interviews with disabled people to build understanding of impact on end users' experiences, attitudes, and travel behaviour. Recruitment these research activities is likely to take place via organisations that represent disabled people. We intend to assess the accessibility of these data gathering methods to ensure disabled people have opportunities to feedback. This may include providing information in alternate formats, such as large text or telephone interviews, to accommodate for disabled people with a range of impairments. In particular, we will engage with the Disabled Persons Transport Advisory Committee (DPTAC) on the Department's mechanisms for the review.

We intend to engage directly with operators to understand the perspectives of the industry, including using feedback from organisations which represent operators. In doing so, we will consider options for engaging with operators of different sizes, (based on the number of Public Service Vehicles which they operate) in order to ascertain whether the Regulations have impacted different parts of the industry consistently.

These research activities will help to understand the extent to which and differences in the monitoring data trends can be attributed to the implementation of the Regulations as opposed to any other changes.

### Key Objectives, Research Questions and Evidence collection plans

<b>Key objectives of the regulation(s)</b>	<b>Key research questions to measure success of objective</b>	<b>Existing evidence/data</b>	<b>Any plans to collect primary data to answer questions?</b>
Give disabled passengers the ability to travel more confidently.	Have disabled passengers' confidence and travel experience been improved? How likely are they to now travel by local service? Were there any unintended consequences?	National Travel Survey, Transport Focus data	Engagement with disability groups.
Ensure AV is fitted on all local services in GB.	What proportion of local services have audible and visible route/direction, next stop, and diversion information?	Annual published bus statistics, Table BUS0610	Enforcement data on non-compliance.
Mitigate risk of network contraction.	Has there been a larger than expected reduction in local services as a result of increased costs due to the policy?	Annual published statistics on number of buses used as PSVs, Table BUS0601/2	Engagement with operators on realised costs of regulation/unintended consequences.

## 7.0 Analytical Annex

This annex describes the methodology behind the calculations for the costs and benefits estimated in this impact assessment. All data comes from published DfT bus statistics<sup>1</sup> unless otherwise stated.

### 7.1 Key market indicators, assumptions and bus KPIs

Market indicator	Source	Further information	Estimate
Total bus operators, GB outside of London, 2020/21	DfT bus statistics, PSV survey data 2020/21. Unpublished due to commercial sensitivities.	While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.	
Total large bus operators, GB outside of London, 2020/21	DfT bus statistics, PSV survey 2020/21. Unpublished due to commercial sensitivities.	While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.	
Total small bus operators, GB outside of London, 2020/21	DfT bus statistics, PSV survey 2020/21. Unpublished due to commercial sensitivities.	While used in analysis, these figures are unable to be published in this IA as they are internal,	

<sup>1</sup> <https://www.gov.uk/government/statistical-data-sets/buses-statistical-tables-index>

		unpublished DfT statistics.	
Proportion of buses owned by large operators	DfT bus statistics, PSV survey 2020/21. Unpublished due to commercial sensitivities.	While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.	
Proportion of buses owned by small operators	DfT bus statistics, PSV survey 2020/21. Unpublished due to commercial sensitivities.	While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.	
Proportion of large operator buses already installed with AV, 2020/21	Bus statistics, raw audiovisual data 2020/21. Unpublished due to lack of confidence in the quality of the data.	Used to forecast the proportion of large operator buses with AV over the appraisal period, with growth rate taken from combined operator trends (BUS0610)	

<p>Proportion of small operator buses already installed with AV, 2020/21</p>	<p>Bus statistics, raw audiovisual data 2020/21. Unpublished due to lack of confidence in the quality of the data.</p>	<p>Used to forecast the proportion of small operator buses with AV over the appraisal period, with growth rate taken from combined operator trends (BUS0610)</p>	
<p>Proportion of buses already installed with AV (all operators), GB outside of London, 2020/21</p>	<p><a href="https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021">https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021</a> Table BUS0610 for England outside London</p>	<p>While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.</p>	
<p>Total coaches running Intercity scheduled services</p>	<p><a href="https://www.zemo.org.uk/assets/reports/LowCVP%20Coach%20report%202020%20web%20version%20V2.pdf">https://www.zemo.org.uk/assets/reports/LowCVP%20Coach%20report%202020%20web%20version%20V2.pdf</a> An Analysis of the UK Coach Market, Zemo, 2020</p>	<p>An upper figure on how many coaches could be in the scope of these regulations, given exemptions. This is likely to be a significant overestimate</p>	<p>1250</p>

Platform staff (drivers or conductors) employed by local bus operators, GB outside of London, 2020/21	<a href="https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021">https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021</a> Table BUS0701	While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.	
Average bus fare on local bus services, England outside of London	<a href="https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021">https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021</a> Due to lack of data on average bus fares, operating revenue per passenger journey taken as proxy, Table BUS0402a	2018/19 values taken to eliminate any impact of covid on operator costs or revenues, 2019 prices. England outside of London taken as proxy for GB outside of London.	£1.66
Operator cost per passenger journey on local bus services, GB outside of London	<a href="https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021">https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2021</a> Operating cost per passenger journey, Table BUS0407a	2018/19 values taken to eliminate any impact of covid on operator costs or revenues, 2019 prices.	£1.57
Average bus trip length (minutes), local bus outside London, 2018/19	<a href="https://www.gov.uk/government/statistics/national-travel-survey-2020">https://www.gov.uk/government/statistics/national-travel-survey-2020</a> Table NTS0303	Due to changes in the methodology of data collection,	36



		changes in travel behaviour, and a reduction of data collected during 2020, the previous data point (2018/19) has been used.			
Average km per car trip, England excluding London, 2018/19	<a href="https://www.gov.uk/government/statistics/national-travel-survey-2020">https://www.gov.uk/government/statistics/national-travel-survey-2020</a> Table NTS9910	Due to changes in the methodology of data collection, changes in travel behaviour, and a reduction of data collected during 2020, the previous data point (2018/19) has been used.	13.91		
Assumption	Source	Further information	Scenario		
			Low	Central	High
Familiarisation time (hours)	DfT's best estimate due to lack of available data. No indication given at consultation of a better estimate.	Time taken for operators to familiarise	2	4	8

		with policy change.			
Equipment and installation costs (without wheelchair visual info), large operator	Estimates provided by Real Time Information Group (RTIG) and AV technology suppliers.	Range used with highest estimate given as the high scenario, and the lowest estimate as the low scenario. Central estimate is the midpoint. 2019 prices.	£2,525	£3,927	£5,330
Equipment and installation costs (without wheelchair visual info), small operator	Estimates provided by Real Time Information Group (RTIG) and AV technology suppliers.	Range used with highest estimate given as the high scenario, and the lowest estimate as the low scenario. Central estimate is the midpoint. 2019 prices.	£2,525	£3,226	£3,927
Equipment and installation costs (with wheelchair visual info), large operator	Estimates provided by Real Time Information Group (RTIG) and AV technology suppliers.	Range used with highest estimate given as the high scenario, and the lowest estimate as the low	£3,460	£5,330	£7,200

		scenario. Central estimate is the midpoint. 2019 prices.			
Equipment and installation costs (with wheelchair visual info), small operator	Estimates provided by Real Time Information Group (RTIG) and AV technology suppliers.	Range used with highest estimate given as the high scenario, and the lowest estimate as the low scenario. Central estimate is the midpoint. 2019 prices.	£3,460	£4,395	£5,330
Driver training time (hours)	DfT's best estimate, sense checked with bus operators.	Time taken to upskill bus drivers to use the AV technology on buses. Assume training is light touch due to automation of many technology types.	0.2	0.3	0.5
Back office resource requirement, large operators (hours)	DfT's best estimate, sense checked with bus operators and industry representative RTIG.	FTE weekly resource time required to maintain and run the back office AV systems.	10	25	40 (1 FTE)

Back office resource requirement, small operators (hours)	DfT's best estimate based on large operator estimates and discussion with industry representative RTIG.	FTE weekly resource time required to maintain and run the back office AV systems	1	2.5	4
GJT savings of audio-visual interventions (minutes), general bus users	TAG data book Table M 3.2.1, segmented values of soft bus interventions.	Half the TAG value taken as high scenario. Sensitivity analysis conducted to account for uncertainty.	0.78	1.17	1.56
GJT savings of audio-visual interventions (minutes), elderly and disabled bus users	TAG data book Table M 3.2.1, segmented values of soft bus interventions.	TAG value taken as high scenario. Sensitivity analysis conducted to account for uncertainty.	1.56	2.34	3.12
GJT savings of audio-visual interventions (minutes), general bus users	TAG data book Table M 3.2.1, segmented values of soft bus interventions.	Half the TAG value taken as high scenario. Sensitivity analysis conducted to account for uncertainty.	0.63	0.94	1.26
Proportion of passenger journeys made by elderly and disabled concessionary passengers	BUS0113, England 2018/19	No sensitivity analysis conducted as the proportion has been	22%		

		stable for 8 years.			
Profit margins, large operators	DfT Bus Statistics Tables BUS0402a and BUS0407a	Central profit margin calculated from (operator revenue per passenger journey - operator cost per passenger journey) / operator revenue per journey, sensitivity analysis conducted +/-50% due to uncertainty.	2.9%	5.7%	8.6%
Profit margins, small operators	DfT's best estimate based on large operator profit margins, we received no indication at consultation of a different best estimate.	Profit margins for small operators calculated as being half of the profit margin for large operators.	1.4%	2.9%	4.3%
<b>KPI</b>	<b>Source</b>	<b>Further information</b>	<b>Scenario</b>		
			<b>Low</b>	<b>Central</b>	<b>High</b>
Forecast number of local buses registered in GB	DfT bus statistics, Table BUS0602.	Average 10-year (2009/10-2018/19, to eliminate the	26,553	27,131	27,717

outside of London, 2023		<p>impact of Covid-19) growth rate in the number of buses used as Public Service Vehicles on local bus services was used to forecast the number of buses that will be in use when the policy is implemented in 2023. Sensitivity testing conducted for +/-50% of the average growth rate to account for uncertainty.</p>			
Estimated number of vehicles that must comply with the accessible information requirement in policy options 2 and 3 within first three years	Forecast based on unpublished bus statistics raw audiovisual data 2020/21 (unpublished due to lack of confidence in the quality of the data) and Table BUS0610 showing trends in audiovisual technology.	<p>Number of buses that are forecast to already have AV are removed from the total, leaving only those vehicles in scope of the policy. Sensitivity testing</p>			

		<p>conducted for +/-50% of the average growth rate in vehicles already with AV technology to account for uncertainty.</p> <p>While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.</p>			
<p>Option 2 – number of vehicles first used on or after 6th April 2022 that must comply with the policy within first three years</p>	<p>Unpublished bus statistics on average age of the bus fleet, 2020/21, adapted from published data (Table BUS0605).</p>	<p>Proportion of vehicles of a certain age is applied to the number of forecast buses in use in 2023. The forecast proportion of buses already with AV installed is then removed.</p> <p>While used in analysis, these figures are unable to be published</p>			

		in this IA as they are internal, unpublished DfT statistics.			
Option 2 – number of vehicles first used on or before 5th April 2022 that must comply with the policy within first three years	Unpublished bus statistics on average age of the bus fleet, 2020/21, adapted from published data (Table BUS0605).	Proportion of vehicles of a certain age is applied to the number of forecast buses in use in 2023. The forecast proportion of buses already with AV installed is then removed.  While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.			
Option 3 – number of vehicles first used on or after 6th April 2019 that must comply with the policy within first three years	Unpublished bus statistics on average age of the bus fleet, 2020/21, adapted from published data (Table BUS0605).	Proportion of vehicles of a certain age is applied to the number of forecast buses in use in 2023. The forecast proportion of			



		<p>buses already with AV installed is then removed.</p> <p>While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.</p>			
<p>Option 3 – number of vehicles first used on 6th April 2014 to 5th April 2019 inclusive that must comply with the policy within first three years</p>	<p>Unpublished bus statistics on average age of the bus fleet, 2020/21, adapted from published data (Table BUS0605).</p>	<p>Proportion of vehicles of a certain age is applied to the number of forecast buses in use in 2023. The forecast proportion of buses already with AV installed is then removed.</p> <p>While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.</p>			

Option 3 – number of vehicles first used on or before 5th April 2014 that must comply with the policy within first three years	Unpublished bus statistics on average age of the bus fleet, 2020/21, adapted from published data (Table BUS0605).	Proportion of vehicles of a certain age is applied to the number of forecast buses in use in 2023. The forecast proportion of buses already with AV installed is then removed.  While used in analysis, these figures are unable to be published in this IA as they are internal, unpublished DfT statistics.			
Option 2 – number of buses getting AV over appraisal period (10 years)	DfT's best estimate	Number of buses getting AV equipment each year added up over the entire 10 year appraisal period	16,159	19,119	22,314
Option 3 – number of buses getting AV over appraisal period (10 years)	DfT's best estimate	Number of buses getting AV equipment each year	15,039	17,466	20,152

		added up over the entire 10 year appraisal period			
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## 7.2 Costs

### 7.2.1 Costs to operators

#### *Familiarisation costs – costs to all operators in all options modelled*

Regardless of the option chosen, there are expected to be costs to operators to familiarise themselves with the policy changes. Due to a lack of evidence as to what these costs might be, some assumptions of resource time that will be required by operators have been made to estimate these impacts.

It has been assumed that for each operator, it will take between two and eight FTE hours of time to familiarise themselves with the implications of the policy. An average hourly rate for an employee in an administrative role<sup>2</sup> has been uplifted by 21% to account for non-wage costs (in line with TAG guidance) to get the approximate opportunity cost of each hour taken for familiarisation. This is then multiplied by two, four and eight, and by the total number of local operators in order to get a low, central, and high estimate for the total familiarisation costs.

*Table 1: Assumed familiarisation costs, £2019*

	Low	Central	High
Familiarisation cost per operator	£28.54	£57.08	£114.17
Total familiarisation costs, large operators	£4,852	£9,704	£19,408
Total familiarisation costs, small operators	£9,619	£19,237	£38,474

Figures for Great Britain excluding London have been used throughout the analysis, since virtually 100% of buses in London already have AV technology installed, therefore the impact of the policy in this area is expected to be slight.

Familiarisation costs are one off costs but have been assumed to be spread evenly over the three years before all operators are mandated to comply with the policy in options 2 and 3, whilst familiarisation costs for option 1 have been assumed to be spread over the 10 year appraisal period, given there is no deadline for any implementation.

No specific familiarisation costs have been calculated for local coach operators in order to avoid double counting given that the majority of them also operate local bus services.

<sup>2</sup>£11.83 in 2019 prices. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2020>

*Equipment and installation costs – costs to all operators who are mandated to provide AV announcements*

Equipment and installation cost estimates for large operators have been provided by the Real Time Information Group (RTiG), a trade body for public transport technology stakeholders, and AV technology suppliers. The lowest and highest estimates have been presented as a low and high scenario, with the central estimate being the midpoint between the two, to account for the uncertainty in the estimates. Given there is no requirement to purchase a particular AV solution, provided it complies with the regulations, we anticipate smaller operators to opt for cheaper technology solutions. Therefore, the central cost estimate for large operator vehicles has been taken as the high scenario for small operator vehicles, with the central estimate being the midpoint between the high and low.

There is an additional cost to providing visual information for a backward facing wheelchair space which is outlined in the table below and has been applied to all new vehicles which are used on or after 6<sup>th</sup> April 2024.

*Table 2: Assumed AV equipment and installation costs per bus, £2019*

	Low	Central	High
Equipment and installation costs without wheelchair visual info, per large operator vehicle	£2,525	£3,927	£5,330
Equipment and installation costs without wheelchair visual info, per small operator vehicle	£2,525	£3,226	£3,927
Equipment and installation costs with wheelchair visual info, per large operator vehicle	£3,460	£5,330	£7,200
Equipment and installation costs with wheelchair visual info, per small operator vehicle	£3,460	£4,395	£5,330

The estimated equipment and installation costs per vehicle are multiplied by the additional number of vehicles in which operators are assumed to install AV as a result of the policy against the do nothing scenario, to give the total additional AV equipment and installation costs as a result of the policy change. £3.3m - £4.3m (2019 prices) of small operator equipment costs are expected to be funded by the government's Accessible Information Grant, therefore these have been removed from the total costs.

Equipment and installation costs have also been calculated for local coach services. This has not been differentiated between large and small operators as we would expect the cost to be the same for both. The same equipment costs as for a small bus operator has been taken for coaches and the additional cost of providing visual information for a backward facing wheelchair space has not been added as our engagement suggests that this would apply to very few coaches. The costs per coach used are outlined in the table below.

*Table 3: Assumed AV equipment and installation costs per coach, £2019*

	Low	Central	High
Equipment and installation costs	£2,525	£3,226	£3,927

*Upskilling costs – costs to all operators who are mandated to provide AV announcements*

It is assumed that drivers may need to be trained to operate the new AV technology, though we anticipate this to be relatively light touch due to automation of announcements on a lot of AV technology. Due to a lack of evidence and uncertainty around the extent of training required, some assumptions of training time have been made to estimate the impacts.

We do not assume that there will be new training specifically on the AV technology, but that it may be combined with existing driver training. It has been assumed that each driver will require an additional 10-30 mins of training. The median<sup>3</sup> hourly wage for a bus driver has been uplifted by 21% to account for non-wage costs and is multiplied by this time taken to get the training cost per driver. The number of bus drivers employed by local bus operators in GB outside of London has been taken from published DfT bus statistics, and the proportion of buses already with AV has been used to isolate only the drivers on buses that don't already have AV installed. The training cost per driver has been multiplied by the number of drivers to give the total upskilling costs, which are assumed to be spread evenly over the three years before all operators are mandated to comply with the policy.

A specific upskilling cost for local coach drivers has not been included as this will be a negligible amount and the upskilling cost for bus drivers is likely to be an overestimate as it includes drivers on non-local services by operators who also run local bus services.

It has not been possible to monetise the additional costs of delivering driver training, given the uncertainty of how this training is delivered (size of groups, informal or formally, etc). However, the costs of this are expected to be extremely slight.

*Table 4: Assumed driver upskilling costs, £2019*

	Low	Central	High
Assumed training time required (mins)	10	20	30
Total upskilling costs	£103,429	£206,858	£310,288

*Back office costs – costs to all operators who are mandated to provide AV announcements*

It is assumed there will be ongoing costs to operators of maintaining AV technology. We assume that these costs will be higher for large operators than for small operators (for example, stop validation will be more extensive when an operator has many different routes). For small operators, we assume that there will be no FTE resource hired for back office management, though back office management could require a few hours of additional overtime each week. For large operators, we anticipate the resource requirement will be greater and could involve additional associated recruitment.

For large operators, we assume a range of 10-40 FTE hours per week, with the upper limit assuming 1 employee hired on a full time basis. For small operators, we assume a range of 1-4 FTE hours per week. FTE resource time is then multiplied by the median hourly wage for an administrative worker from ONS ASHE, uplifted by 21% according to TAG for non-wage costs, to give a back office cost per operator. This has been multiplied by the total number of bus

<sup>3</sup> Median hourly wage has been taken as to eliminate any outliers in the data.

operators in GB outside of London without AV already installed, which was taken from unpublished DfT bus data 2020/21, to give the total annual back office costs summarised below.

No additional back office costs are calculated for coaches as most local coach operators also operate local bus services and therefore the amount is thought to be negligible.

*Table 5: Back office costs for small and large operators, £2019*

	Low	Central	High
Annual back office costs, large operators	£662,088	£1,655,221	£2,648,354
Annual back office costs, small operators	£232,849	£582,123	£931,396

## 7.2.2 Costs to government

*Subsidy to small operators - in all scenarios where operators are mandated to provide AV announcements*

There will be a cost to government of providing the Accessible Information Grant (AIG) to small operators (operators with 20 or less vehicles) to fund the purchase of AV equipment. This is expected to cost £3.3m - £4.3m in 2019 prices. The Low scenario was taken to be the £3.3m minimum size of the fund (£3.5m in 2021 prices), with the expected £4.3m (£4.6m in 2021 prices) used for the Central and High scenarios.

*Table 6: Accessible Information Grant, £2019*

	Low	Central	High
Accessible Information Grant	£3,272,878	£4,301,497	£4,301,497

*Loss of indirect tax revenue - in all scenarios where operators are mandated to provide AV announcements*

The regulation will encourage greater use of local services, and therefore reduce the number of people travelling by car. Government receives tax revenue from each car user through taxes such as fuel duty, therefore government revenue will reduce if travellers switch from car to local service, though this will be offset by an increase in revenue from bus fuel tax.

Published bus statistics have been used to forecast the distance travelled by buses over the appraisal period in the “do nothing” scenario. The decrease in distance travelled by cars as a result of the policy has been estimated by multiplying the increase in demand for journeys due to modal shift (see methodology below) by the average km per car trip<sup>4</sup> and the car to bus diversion factor of 24%<sup>5</sup> and dividing by average car occupancy.

These changes in distance travelled by buses and cars have been multiplied by the marginal external cost for indirect taxation (pence per vehicle km) as produced by the DfT MEC calculator, based on draft carbon values issued by BEIS, and scaled up to 2019 prices to give the total impact on indirect tax revenue.

The distance travelled by buses in the do nothing scenario is one of the key determinants of these costs, therefore the growth rate in the counterfactual has been varied by +/-50% to account for the high uncertainty of the impacts of Covid-19 on bus travel.

## 7.3 BENEFITS

### 7.3.1 Benefits to operators

*Increased profits as a result of increased patronage – benefits for all operators and all policies*

The increase in patronage has been calculated using the change in generalised journey time (GJT) and the GJT elasticity from TRL (2004)<sup>6</sup>. GJT is a measure of the total cost of a journey, i.e. fares, journey time and other factors such as comfort and convenience expressed in the unit of journey time minutes. Elasticities are economic parameters which measure the change in demand with respect to changes in other factors (in this case, the change in demand with respect to the change in GJT).

Different GJT improvements have been used in the three scenarios based on the range of values presented for GJT savings from audio announcements and on-screen displays in DfT (2009)<sup>7</sup> and these are displayed in the table below. For the GJT benefits from the provision of audio announcements, only the value used in the high scenario has been taken from DfT (2009) and has been halved, with the low scenario being 50% of the high value. This has been done to ensure that the estimates for the benefits of this policy are relatively conservative and reflect the significant technological advancements that have occurred since the paper was published.

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<sup>4</sup> National Transport Survey 2018/19, Table 09910. Due to changes in the methodology of data collection, changes in travel behaviour, and a reduction of data collected during 2020, the previous data point (2018/19) has been used for this analysis.

<sup>5</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/719278/bus-fare-journey-time-elasticities.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf)

<sup>6</sup> TRL (2004) ‘The Demand for Public Transport: A Practical Guide’.

<sup>7</sup> Department for Transport (2009) ‘The role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England’

A GJT elasticity of -1.1 is used, from research carried out by RAND Europe/Systra for DfT (2018).<sup>8</sup> This is the best value available to us at present and in any case we would not expect this figure to vary dramatically over time. In comparison to car journey time elasticity suggested in TAG unit M2.1 (up to -2.0), we think the bus time elasticity assumption is reasonable.

*Table 7: Assumed GJT improvements for the average bus user from AV technology*

Scenario	Low	Central	High
GJT benefit from the installation of AV, mins	0.63	0.94	1.26

The increase in farebox revenue has been calculated from the change in patronage by multiplying the number of new journeys per year by the average fare in that year. The average bus fare is estimated to be £1.66 per journey (2019 prices) based on published DfT statistics on operator revenue, which has been used over the National Fares survey as it gives the required disaggregation for England outside of London figures.

Finally, the increase in profits for bus operators has been calculated by multiplying the change in farebox revenue by the assumed profit margin of operators. The central profit margin for large operators is taken from published bus statistics on operator costs and revenues, but this value has been varied by +/- 50% to reflect the uncertainty behind this estimate. For small operators, the profit margin in each scenario has been conservatively assumed to be half of the profit margin for large operators. This is summarised in the table below.

*Table 8: Assumed profit margins for operators in each of the scenarios modelled*

Scenario	Low	Central	High
Profit margins for large operators	5.0%	11.0%	15.0%
Profit margins for small operators	2.5%	5.5%	7.5%

The distance travelled by buses in the do nothing scenario is one of the key determinants of these costs, therefore the growth rate in the counterfactual has been varied by +/-50% to account for the high uncertainty of the impacts of Covid-19 on bus travel.

### 7.3.2 Benefits to bus users

**Table M 3.2.1: Segmented values of soft bus interventions  
(generalised minutes)**

<sup>8</sup> There is a lack of recent evidence on GJT elasticity. As noted in *Bus fare and journey time elasticities and diversion factors for all modes* (RAND, 2018, p56), DfT (2017) acknowledges the lack of recent evidence on time elasticities for buses, and states that GJT elasticity is assumed to be the same as that from TRL (2004). Therefore this is the figure we have adopted for our analysis.



Soft Measure	Bus Users	Car Users	Overall
Audio Announcements <sup>1</sup>	1.22		
CCTV at Bus Stops	3.70	2.49	2.91
CCTV on Buses	1.66	3.18	2.54
Climate Control <sup>1</sup>	1.24		
New Bus Shelters <sup>1</sup>	1.08		
New Bus with Low Floor	1.19	2.23	1.78
New Interchange Facilities	1.27		
On-Screen Displays	1.90	0.89	1.29
RTPI (at bus stops)	1.47	1.74	1.69
Simplified Ticketing	0.84	2.06	1.43
Trained Drivers	2.46	2.78	2.63

#### *Benefits to existing bus users of improved journey quality*

The benefit per journey to existing bus users from the provision of aural and visual announcements has been approximated using the GJT savings of soft bus interventions taken from TAG (Unit M 3.2.1) and monetised using the forecast values of time per person (TAG Unit A1.3.2). These benefits have been multiplied by the number of existing bus journeys that will be made on buses that now have audio-visual announcements as a result of the policy, against the do-nothing scenario.

The GJT savings of audio and visual interventions is the main driver of the benefits to bus users, therefore a range of estimates has been presented to account for the uncertainty. The benefits of audio-visual technology interventions have likely changed since the TAG GJT savings were derived<sup>9</sup>, due to significant improvements in mobile technology and travel information. To account for this, the TAG values for general users have been halved and taken as the high scenario, whereas the TAG values have been taken as the high scenario for disabled passengers, to account for the fact that the benefit to them will be higher. The NPV is also sensitive to the growth rate in the number of buses operating, passenger journeys, and number of buses that are assumed to have installed AV technology under business as usual, therefore these have also all been varied by +/-50%.

#### *Benefits to new bus users who will travel as a result of the policy.*

In order to determine the change in demand for bus journeys as a result of the policy, the average bus fare is converted into GJT minutes using guidance from TAG, and a GJT elasticity of -1.1<sup>10</sup> is used to calculate the increase in patronage as a result of audio-visual announcements. To isolate the new journeys that are made by passengers who would otherwise not travel without the intervention, guidance from TAG (Units A3.16 and A3.17) was used to approximate the

<sup>9</sup> Which were taken from a (2009) study, available here <https://cambridge.blob.core.windows.net/public/ldf/coredocs/RD-T-050.pdf>.

<sup>10</sup> RAND and Systra 2018 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/719278/bus-fare-journey-time-elasticities.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719278/bus-fare-journey-time-elasticities.pdf)

proportion of bus journeys which were made by passengers that “would not go” otherwise. A sensitivity test of 21% applied to all segments has been conducted as recommended in TAG. This has a small positive impact on the benefits, increasing the nominal benefits of the central scenario from £191m to £192m (option 2) and from £190m to £191m (option 3). The remainder of the increase in patronage is assumed to be attributed to modal shift from car use to bus use however, these have not been monetised due to a lack of data on the monetary benefit applied to their bus trips. The benefits assessed are therefore expected to be an underestimate of the total benefits.

To estimate the monetary benefit to new passengers, the value of social impact per return bus trip (TAG Unit A3.18) is multiplied by the number of additional journeys identified to be made by passengers who would not go without the intervention, divided by two and multiplied by a half in line with the ‘rule of a half’ methodology as explained in TAG (Unit A1.2)<sup>11</sup>.

### **7.3.3 Impacts on government and wider society**

To calculate the impacts on wider society, the marginal external cost (MEC) values of pence per km for buses and cars, as produced by the DfT MEC calculator based on carbon values issued by BEIS, are multiplied by the change in distance travelled on buses and cars. Published bus statistics have been used to forecast the distance travelled by buses over the appraisal period in the “do nothing” scenario.

The decrease in distance travelled by cars and taxis is calculated by multiplying the increase in journeys travelled by buses due to modal shift by a diversion factor of 36%<sup>12</sup>, multiplying by the average distance per car journey according to the National Travel Survey (table NTS9910), and dividing by the average car occupancy (TAG Unit A1.3.3).

The distance travelled by buses in the “do-nothing” scenario is one of the key determinants of these costs, therefore the growth rate in the counterfactual has been varied by +/-50%, to account for the high uncertainty of the impacts of Covid-19 on travel patterns.

## **7.4 Carbon impacts**

Guidance from TAG has been used to quantify the approximate carbon emissions savings that result from a shift away from private car and taxi use to bus use. Fuel and electricity consumption per km travelled has been estimated using Unit A1.3.11, and some assumptions on average vehicle speeds. These have been converted into carbon emissions per km travelled using Unit A3.3 carbon emissions factors. Unit A1.3.9 has been used to approximate the proportion of cars and PSVs using petrol, diesel, or electricity, to estimate a car and bus fleet average amount of carbon emissions per km travelled. The net CO<sub>2</sub>e savings are then calculated by multiplying the change in distance travelled by buses and cars previously calculated by the amount of carbon emissions per km travelled.

Average car speeds have been taken from the National Transport Model and are averaged over the appraisal period for all GB roads. There is a lack of available data on average bus speeds, which are assumed to be lower than average car speeds. Due to the uncertainty over these key inputs, sensitivity

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<sup>11</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313222/webtag-tag-unit-a1-3-user-and-provider-impacts.pdf)

<sup>12</sup> Diversion factors for cars and taxis taken from TAG (Unit A5.4.6)

analysis of +/- 50% has been conducted to illustrate the impact on CO2e savings, with the central average speed assumption of 52.3 km/h for cars and 43.3 km/h for buses (10km/h lower than cars). The results are highlighted in the tables below, which show that in all scenarios, the carbon emissions savings are between 0.00-0.01 million tonnes, therefore this policy is expected to have an overall slight positive impact on carbon emissions.

	Average car speed (km/h)		
CO2e savings (tonnes)	26.64	53.28	79.91
Non-Traded	9036	4000	2887
Traded	7	7	7

	Average car speed (km/h)		
CO2e savings (million tonnes)	26.64	53.28	79.91
Non-Traded	0.01	0.00	0.00
Traded	0.00	0.00	0.00

	Average bus speed (km/h)		
CO2e savings (tonnes)	21.64	43.28	64.91
Non-Traded	-1165	4000	5822
Traded	7	7	7

	Average bus speed (km/h)		
CO2e savings (million tonnes)	21.64	43.28	64.91
Non-Traded	0.00	0.00	0.01
Traded	0.00	0.00	0.00

## 7.5 A note on passenger demand forecasts

In order to appraise the policies over a 10 year period, some assumptions had to be made on the future levels of bus passenger demand (journeys) and distance travelled by buses in the do-nothing scenario. In the short-term (until March 2023), this analysis has been consistent with DfT and CPT's short-term passenger demand forecasts for recovery from Covid-19 as of November 2021. If bus patronage is 10% lower than the short-term forecasts used in the analysis, the 2023 net present social value of the preferred option reduces from £988.8m to £885.0m, and the equivalent annual net direct cost to business is unchanged (2019 prices, 2020 base year).

Due to high uncertainty around long-term demand trends, a 10-year average growth rate has been taken from 2009/10-2018/19 (to eliminate the impact of Covid-19 on travel patterns) and applied to future years following April 2023. This does not take into account the impact of measures set out in the National Bus Strategy, which we cannot currently quantify. For both passenger journeys and distance travelled, this method results in a downward trend in demand. In reality, we expect future trends may not be linear and could be different from these forecasts however, in the absence of better data, we have considered the 10-year average growth rate to be the most appropriate indicator for the modelling. The forecasted growth rates have been varied by +/-50% across a high and low scenario to capture some of the uncertainty.